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ABSTRACT

The elderly are projected to make up a quarter of the U.S. population by the year 2025. This teaching kit introduces students to the major issues surrounding the growth of the elderly population. Young people whom older citizens are counting on for care and support are, for the most part, unaware of the impact that this burgeoning older population will have on them. The kit contains an introduction; four activities for students (Martha Sharma; Cheryl Stauffer); a data sheet; a wall chart, "Aging in the United States"; a bulletin, "Older Americans in the 1990s and Beyond" (Judith Trens); a glossary, and a 13-item bibliography. The kit can be used with older high school students or beginning college students and takes approximately one week to complete. (BT)

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Aging
IN THE United States

AN EDUCATION MODULE

SO 030 947

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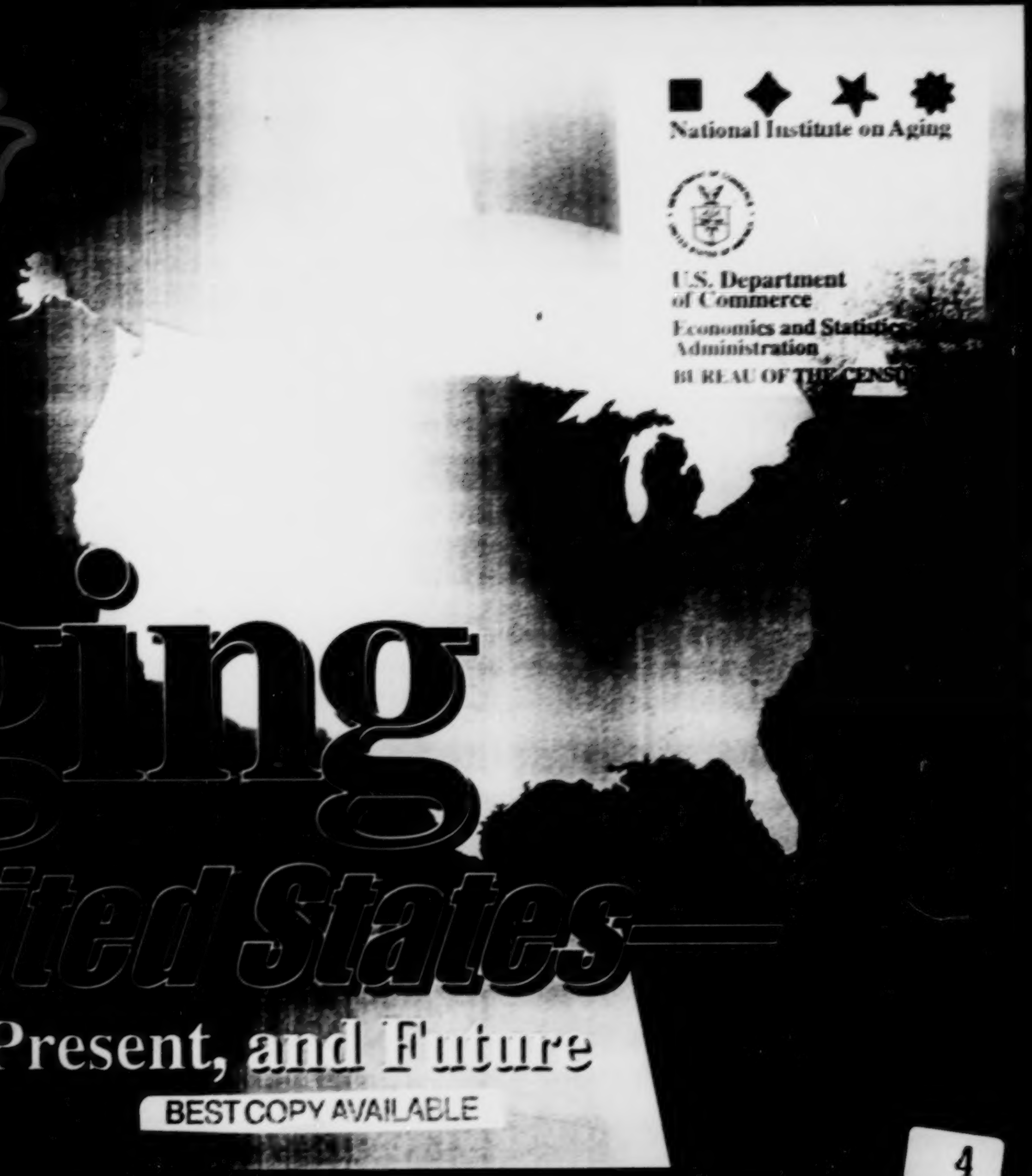

Aging in the United States—Past, Present, and Future

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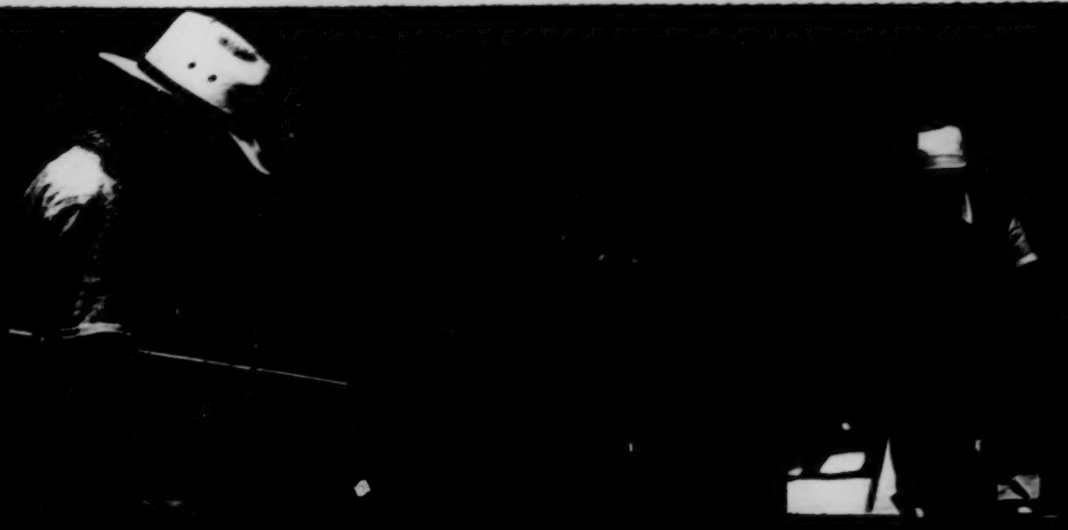

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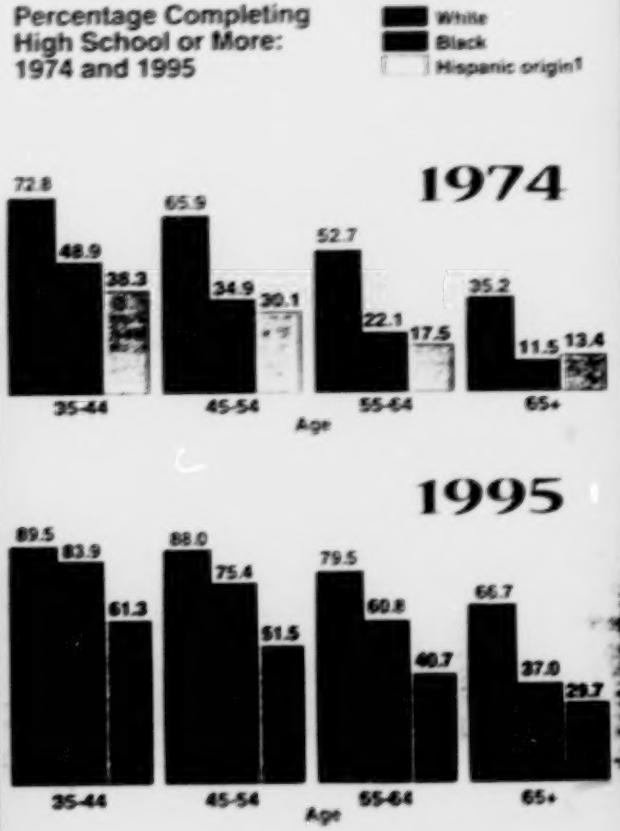
Educational Attainment of the Elderly Will Continue to Improve

Educational attainment provides a rough indication of economic and health status in older age. The better educated tend to be healthier longer and better off economically. Low educational attainment is associated with poverty.

The elderly population is less likely than those age 35 to 64 to have completed high school. In 1995, only 64 percent of noninstitutionalized elderly persons had at least finished high school, compared with 85 percent of persons age 35 to 64. Only 37 percent of elderly Blacks and 30 percent of elderly Hispanics had completed at least high school.

Educational attainment levels of the elderly in the 21st century will be higher than those of present-day elderly. Assuming the educational profile of the age-45-and-over population in 1995 will represent the elderly population in 2015, 76 percent of the elderly in 2015 would have completed high school or more. The proportion of the elderly with a bachelor's degree or higher will increase from 13 percent in 1995 to 20 percent in 2015. Future improvements in educational attainment among the elderly will come more slowly for Blacks and Hispanics than for Whites. For example, in 1995, about 88 percent of Whites age 45 to 54 had at least a high school education compared with 75 percent for Blacks and 52 percent for Hispanics. About 29 percent of Whites in these ages had a bachelor's degree or more, compared with 15 percent of Blacks and 10 percent of Hispanics.

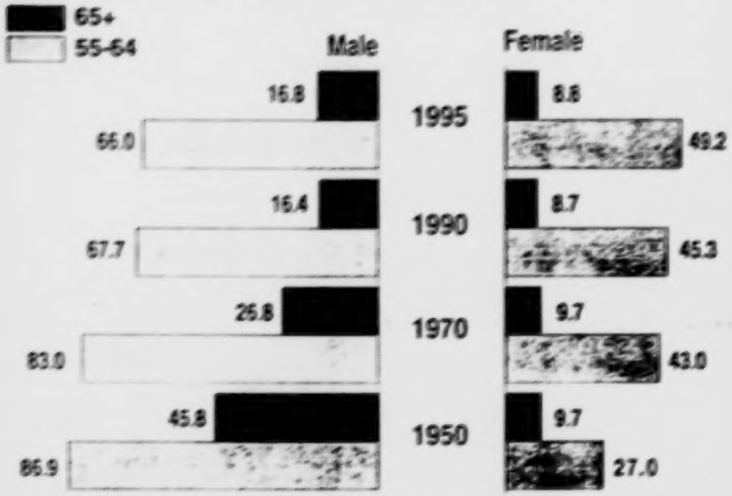
Percentage Completing High School or More: 1974 and 1995



¹Hispanic origin may be of any race.
Source: U.S. Bureau of the Census

Gender Composition of Older Workers Is Changing

Labor Force Participation Rates for Persons Age 55 and Over: 1950 to 1995



Source: Bureau of Labor Statistics, Current Population Survey.

Men age 55 and over are less likely to be in the labor force today than four decades ago. In 1950, 87 percent of men age 55 to 64, and nearly half (46 percent) of men 65 and older were economically active. In 1995, 66 percent of men age 55 to 64 and 17 percent of elderly men were in the labor force.

While labor force participation of older men has decreased, the participation of older women has substantially increased. Participation of women age 55 to 64, for example, increased from 27 to 43 to 49 percent from 1950 to 1970 to 1995, respectively. Among elderly women, participation rates have remained at a low level (around 10 percent) for decades.

Although older women participate in the labor force at lower rates than do older men, women have become a larger share of the older work force, largely because so many men are leaving the labor force at earlier ages. The female share of the older (55 years and older) work force increased from 23 percent in 1950 to 44 percent of all older workers in 1995.

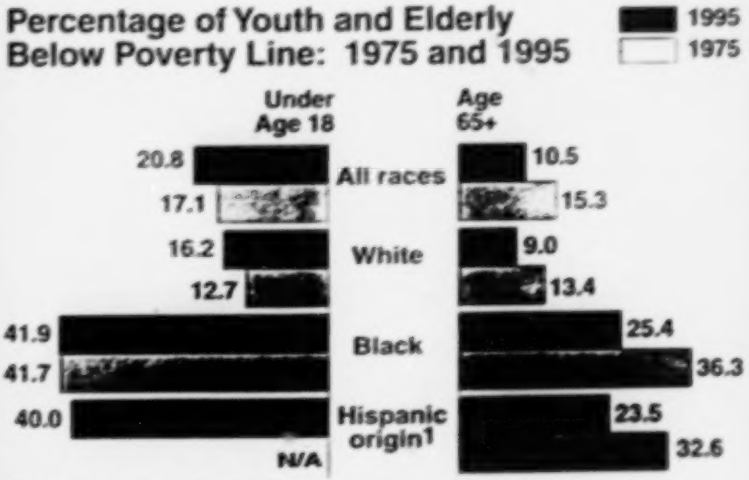
The proportion of employed persons age 55 and over working part time rose from 19 percent in 1970 to 25 percent in 1990. **Part-time employees are much less likely than full-time employees to be covered by major benefits programs. Although increasing proportions of retirees have returned to work, especially part time, most social security beneficiaries do not work.**

Elderly Poverty Rates Have Declined

The overall economic position of persons age 65 and over has improved significantly in recent decades. Poverty became less prevalent during the 1980s for every elderly sex/race/ethnic group. However, poverty rates still vary greatly among elderly population subgroups. In 1995, poverty rates for elderly Blacks (25 percent) and Hispanics (24 percent) were higher than the rate for elderly Whites (9 percent). Elderly women in general had a higher poverty rate (14 percent) than elderly men (6 percent).

Elderly White, Black, and Hispanic women had higher poverty rates than elderly White, Black, and Hispanic men, respectively. Poverty among the elderly increases with age. In 1995, the poverty rate of persons age 65 to 74 was 8.6 percent, compared with 13 percent for persons age 75 and over. The median income (in constant 1994 dollars) of the elderly more than doubled since 1957. Also, median net worth of elderly householders in 1991 was more than 15 times higher than for households with a householder under age 35. Partly because of these economic gains, the perception of "elderly" and "poor" as practically synonymous has changed to a view that the elderly are better off than other citizens. Both views are overly simplistic.

Percentage of Youth and Elderly Below Poverty Line: 1975 and 1995



1Hispanic origin may be of any race.
Source: U.S. Bureau of the Census.

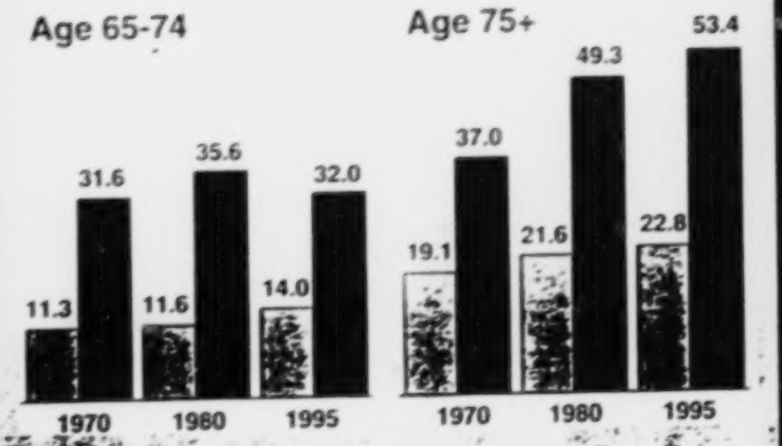
Elderly Women More Likely to Live Alone

Among the U.S. elderly in 1995, women outnumbered men 3 to 2. At ages 85 and over, there were 5 women to every 2 men. Higher female life expectancy, combined with the fact that men generally are older than their spouses, contributes to the higher proportions of elderly women living alone. In 1995, 9.8 million persons age 65 or older lived alone. Eight in ten (77 percent) were women; 7 in 10 (70 percent) were White women.

Widowhood also increases with age among the elderly and is greater for women than men. Among elderly women age 65 to 74, 75 to 84, and 85 years and over in 1995, the percentages currently widowed were 33, 59, and 81, respectively. Elderly men in these age groups were much less likely to be widowers: 9, 18, and 41 percent, respectively.

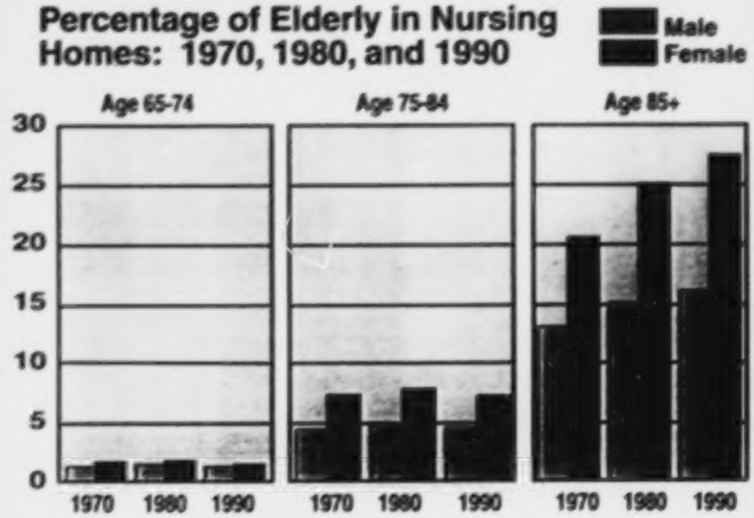
Among noninstitutionalized persons age 65 to 74 in 1995, 64 percent were married and living with their spouse, and 24 percent were living alone. As age increases, so does the proportion living alone. Among those age 85 and over, only 21 percent lived with their spouse, and 54 percent lived alone.

Percentage of Elderly Living Alone: 1970, 1980, and 1995



Source: U.S. Bureau of the Census.

One of Every Three Nursing Home Residents Is an Oldest Old Woman



Source: U.S. Bureau of the Census.

In 1990, 5 percent of all elderly (nearly 1.6 million persons) lived in nursing homes. While most elderly live in households, the proportion of elderly living in nursing homes increases with age. Just over 1 percent of those age 65 to 74 lived in a nursing home in 1990, compared with 6 percent of persons age 75 to 84 and 24 percent of the oldest old (85 and over). The Farm Belt States, which have relatively high proportions of oldest old persons, tend also to have high proportions of their elderly populations living in nursing homes—about 8 percent in North Dakota, South Dakota, Minnesota, Nebraska, and Iowa in 1990.

The elderly nursing home population increased by 55 percent from 1970 to 1980 and by 29 percent from 1980 to 1990. Most people in nursing homes in 1990 were elderly (90 percent) and most commonly, oldest old women (34 percent of nursing home residents were women age 85 and over). Four out of five residents of nursing homes were age 75 or older, and 7 out of 10 were women.

Percentage increases in the U.S. nursing home population in the 1970s and 1980s were less than percentage increases in the oldest old population. However, accelerated growth of the 85-and-over population, combined with increasing labor force participation of women (often the primary caretakers of elderly individuals), suggests that the number and proportion of elderly living in institutions may rise. Whether the frail elderly receive care in nursing homes, from families, or from paid help in their own home, more people will experience the economic, emotional, and physical stresses of long-term care for frail elderly persons.

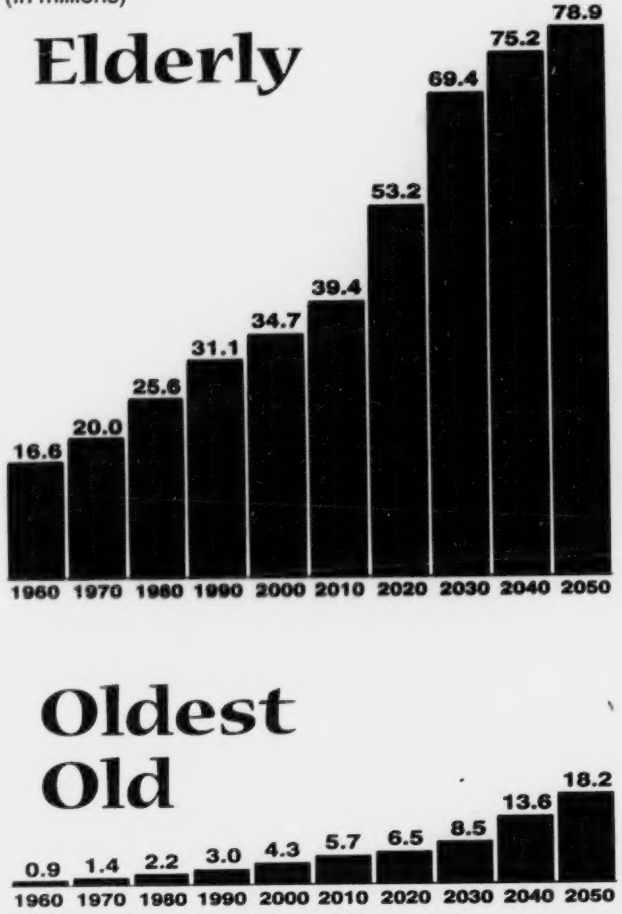
Baby-Boom Generation to Accelerate Elderly and Oldest Old Growth

The elderly population grew rapidly throughout the country's history. From 1900 to 1960, the elderly increased 10-fold, while the population under age 65 was only 2.2 times larger. Between 1960 and 1990, the elderly grew by 88 percent, compared to 34 percent for persons under age 65.

During the period 1990-2010, the elderly growth rate will be lower than during any 20-year period since 1910, a result of the low fertility of the 1930s. After this slow-growth period, an elderly population explosion between 2010 and 2030 is inevitable as the Baby-Boom generation reaches age 65. About 1 in 5 U.S. citizens will be elderly by 2030. The elderly population numbered 30 million in 1988, will not reach 40 million until 2011, then will reach 50 million in only 8 years (2019).

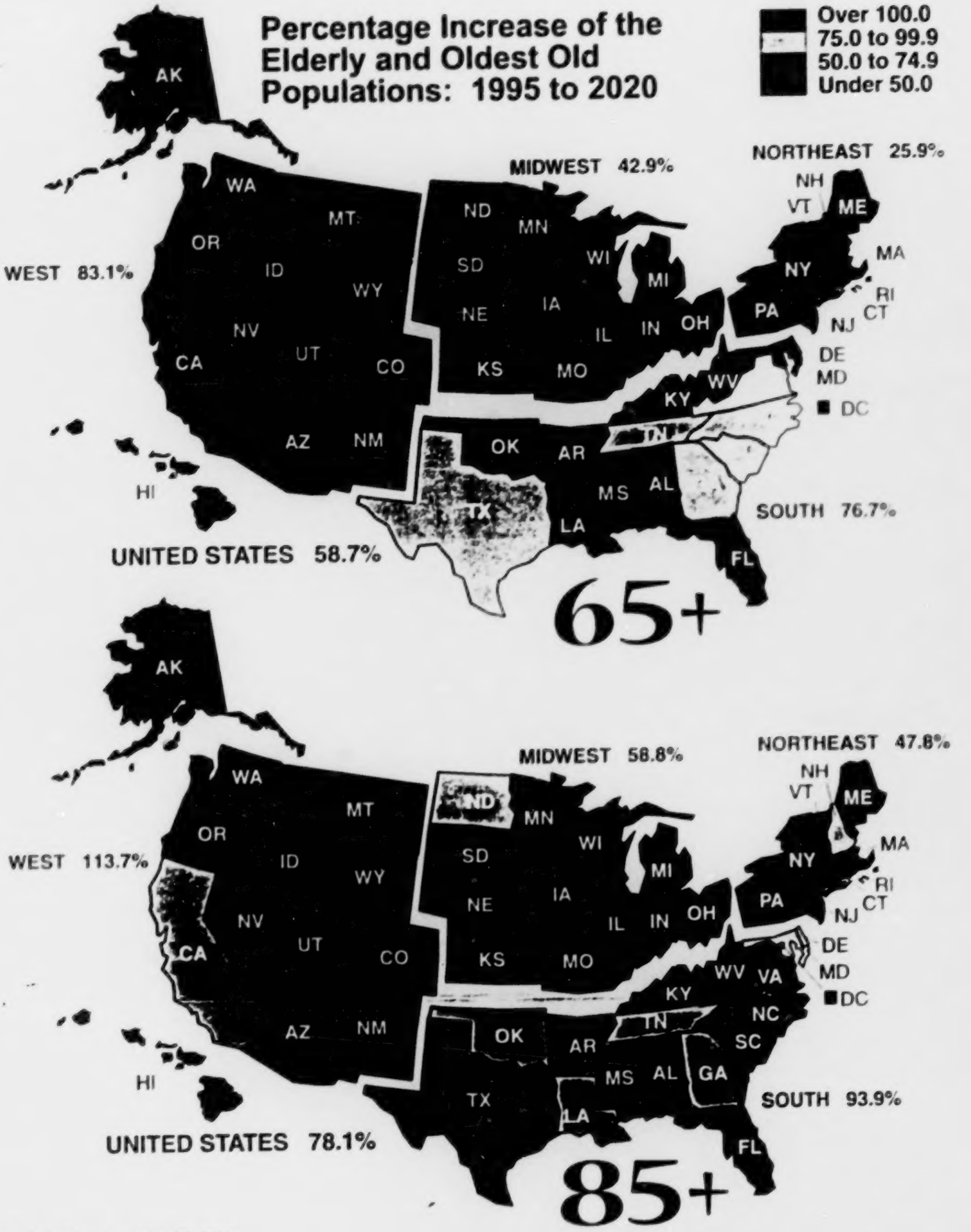
The oldest old, 3.5 million persons in 1994, represented just over 1 percent of the U.S. population. By 2020, the size of the population age 85 and over is projected to double to 7 million. The oldest old will again double to 14 million by 2040 as the survivors of the Baby-Boom cohort reach the oldest ages. Under the "highest" projection series, the oldest old could number as many as 31 million in 2050 (See Sources and Quality of Data). Since the oldest old often have severe chronic health problems which demand special attention, the rapid growth of this population group has many implications for individuals, families, and governments.

Population: 1960 to 2050
(In millions)



Source: U.S. Bureau of the Census.

Percentage Increase of the Elderly and Oldest Old Populations: 1995 to 2020



Over 100.0
75.0 to 99.9
50.0 to 74.9
Under 50.0
WEST 83.1%
MIDWEST 42.9%
NORTHEAST 25.9%
SOUTH 76.7%
UNITED STATES 58.7%
65+
AK
WA
OR
CA
ID
NV
MT
WY
UT
CO
AZ
NM
HI
ND
MN
SD
NE
KS
IA
MO
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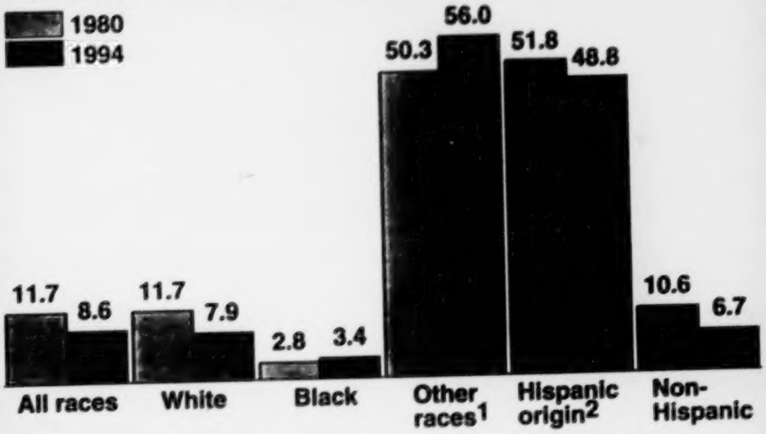
MA
NY
RI
CT
PA
NJ
DE
MD
DC
WV
KY
TN
OK
AR
TX
LA
MS
AL
FL
WEST 113.7%
MIDWEST 58.8%
NORTHEAST 47.8%
SOUTH 93.9%
UNITED STATES 78.1%
85+
VA
NC
SC
GA

Source: U.S. Bureau of the Census

Percentage of Elderly Foreign-Born Is Declining

Percentage of Foreign-Born Among the Elderly: 1980 and 1994



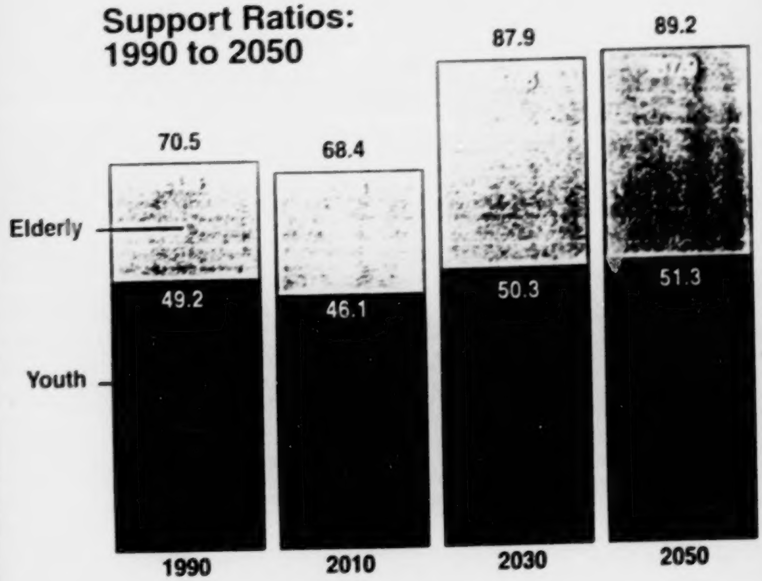
[1] Includes all races except White and Black.
[2] Hispanic origin may be of any race.

Source: U.S. Bureau of the Census.

The percentage of foreign-born among the elderly as a whole has declined from about 20 percent in 1960 to 8.6 percent in 1994. This decline occurred for Hispanics and for every major race group except Blacks. The general decrease in percentage of foreign-born among the elderly population reflects the past levels and composition of migration to the United States. That is, the declining proportion results, in part, from the deaths of the large volume of immigrants who entered the United States during the early 1900s. The proportion of foreign-born elderly in the future is likely to continue to decline until the immigrants of the past few decades begin to reach age 65.

The total foreign-born population in the United States is growing much faster than the total U.S. population. In 1994, the largest proportions of foreign-born persons were from Latin America (predominately from Mexico) and Asia. About 1 of every 3 (33.5 percent) foreign-born persons was elderly in 1960, but in 1994 only about 12 percent of all foreign-born were elderly, reflecting the youthful nature of more-recent immigrants. Among race and Hispanic-origin groups, elderly Asians and Pacific Islanders were most likely (71 percent) to be foreign-born, and elderly American Indians, Eskimos, and Aleuts were least likely (2 percent) to be foreign-born.

Ratio of Elderly to Working-Age Population to Nearly Double From 1990 to 2050



Source: U.S. Bureau of the Census

Changes in support ratios indirectly indicate periods when we can expect the country's age distribution to affect the need for distinct services, housing, and products. The total support ratio (youth under 20 plus elderly 65 and over per 100 in the working-age population 20-64) was 71 in 1990. This ratio will decrease somewhat over the next two decades as the youth component declines while the elderly component increases slightly. The total support ratio will then begin to climb after 2010 and peak around 2035 as the Baby Boomers reach their elder years and the population of traditional working age declines.

Persons age 75 and over, who are more likely than those age 65 to 74 to have health and disability limitations and reduced economic resources, represent an increasingly larger proportion of the total elderly population. For each racial and ethnic group, those age 65 to 74 constitute the largest proportion of the elderly support ratio in 1990. By 2050, however, the population age 75 and over could be more than half the elderly support ratio for each group, except for the Black population.

Sources and Quality of Data

This wallchart summarizes information on the older population in the United States prepared by the U.S. Census Bureau and other Federal agencies. The data are drawn primarily from 1) the 1990 Census of Population and Housing, including unpublished tabulations from the Modified Age, Race, and Sex (MARS) file and the Public Use Microdata Sample (PUMS); and 2) nationally representative surveys such as the Current Population Survey (CPS) and the Survey of Income and Program Participation (SIPP).

Data describing the overall population by age and sex (such as percentage elderly and support ratios) refer to the entire population; data for specific population characteristics such as education, labor force participation, poverty, foreign-born status, and living arrangements refer to the civilian noninstitutional population. Many of these and related data may be accessed via the World Wide Web at http://www.census.gov.

All demographic surveys, including CPS and SIPP, suffer from undercoverage of the population. This undercoverage results from missed housing units and missed persons within sample households. Undercoverage varies with age, sex, and race, and may be as high as 35 percent for some population subgroups. The U.S. Census Bureau uses weighting procedures for its survey data to partially correct for the bias due to undercoverage.

CPS estimates for the early 1990s are inflated to national population controls by age, race, sex, and Hispanic origin. These population controls are based on results of the 1980 census carried forward to 1993. Population controls incorporating 1990 census results were used for survey estimation beginning with the 1994 CPS.

Comparisons of characteristics made from sample data in the wallchart text have been tested for statistical significance (a concept concerning the amount of confidence we have in an estimate derived from a sample) at the 90-percent confidence interval.

We know there will be many more elderly in the future than now, but projections differ in predicting how many more. The Census Bureau generates 10 alternative projection series. These differ in terms of the assumptions concerning the future trajectories of fertility, mortality, and net migration. The projected population figures in this wallchart reflect the Census Bureau's middle series projection assumptions. The eventually-observed figures will vary to the extent that actual levels of international migration and survivorship, by race and Hispanic origin, depart from the projection assumptions. If, for example, the chance of survival improves more rapidly than in the middle series assumptions, future numbers of older population are likely to be higher than those shown here. Details concerning projection methodology and assumptions may be found in U.S. Department of Commerce, Bureau of the Census, *Population Projections of the United States by Age, Sex, Race, and Hispanic Origin: 1995 to 2050*, Current Population Reports No. P25-1130, Washington, DC, February 1996.

This chart was prepared with support from the Office of the Demography of Aging, U.S. National Institute on Aging.
For additional copies and further information, contact: Valerie Lawson or Kevin Kinsella, Aging Studies Branch, International Programs Center, Population Division, Bureau of the Census, Washington, DC 20233.

FAX: 301-457-1539
E-mail: ipc@census.gov

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Older Americans in the 1990s and Beyond

by Judith Treas

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Older Americans in the 1990s and Beyond

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Judith Treas is professor of sociology at the University of California, Irvine. She holds a Ph.D. in sociology from UCLA and is the author of numerous articles on population, aging, family, and inequality.

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Older Americans in the 1990s and Beyond

by Judith Treas

The growth and change of America's older population rank among the most important demographic developments of the 20th century. Falling fertility and longer lives transformed the elderly from a small component to a significant part of the U.S. population. A sizable segment of all consumers, voters, homeowners, patients, and family members are older adults. In one way or another, every social institution in American society has had to accommodate to older people's needs, court their favor, or mobilize their resources and contributions.

Older people are living a lifestyle that few could have envisioned in their youth. Public programs for the elderly—and the succession of increasingly wealthy cohorts—has brought retirement (and even early retirement) within the reach of most people. In fact, active retirement has emerged as an idealized lifestyle that encompasses social engagements, travel, hobbies, volunteer activities, independent living, Sunbelt migration, and even part-time jobs.

Although many older Americans fully enjoy this active and relatively affluent lifestyle, many others cannot. Poverty is no longer endemic in the older population—as it was 40 years ago—but it is still a reality for 12 percent of all elderly people, 28 percent of older African Americans, and 21 percent of elderly Hispanics.

Disability and the loss of independence is also a concern. Because the same demographic developments that contributed to the growth of the older population have lengthened the number of years people will live in advanced old age, chronic illness, disability, and dependency are a poignant reality for many of today's older Americans.

The future elderly population of the United States can be seen today in the large baby-boom generation and their less numerous younger siblings and children. Some current trends will be accentuated among the elderly of the 21st century—such as increasing educational levels and ethnic diversity. Their economic security, however, hinges on many unknowns, including the future of Social Security and other government programs that have benefited older Americans.

As most 65-year-olds will testify, age 65 is an arbitrary marker for entry into old age. In the 1990s, most people retire well before age 65, and most "young-old," people age 65 to 74, are reasonably healthy and live active and independent lives. It is those age 75 and older, particularly the "oldest-old" (age 85 or older), who are most vulnerable to the problems we associate with old age—widowhood, declining health, and the difficulty of going about daily life without assistance.

This *Population Bulletin* focuses on the demographic trends and economic well-being of the U.S. population age 65 and older, and looks at how this group will change. The elderly population of the first half of the 21st century is already here. They are the young and middle-age adults of today. But how long and how well these future elderly will live depends upon medical advances, lifestyle changes, economic trends, political developments, and many other

Seybold Photographs

uncertainties. For now, today's older Americans provide the best yardstick for gauging what tomorrow's elderly will be like.

Growing Numbers

In 1995, almost 34 million Americans had lived past their 65th birthday, accounting for one in eight Americans. By virtue of its size, this older population has made itself felt throughout U.S. society—in national politics, in the health care system, at the corner market, and in the multigenerational family.

In 1900, there were only 3 million older adults in the United States, and they made up 1 in 25 Americans (see Table 1). The growth of the older population can be traced to the surer survival of the increasingly large generations of Americans born during the first quarter of this century when birth rates were higher than they are today. The aging of the 19 million immigrants who entered the United States in the first three decades of this century also contributed to this growth. While most of today's foreign-born elderly entered the United States long ago as children or young adults, others arrived fairly recently to join family members already here.

Table 1

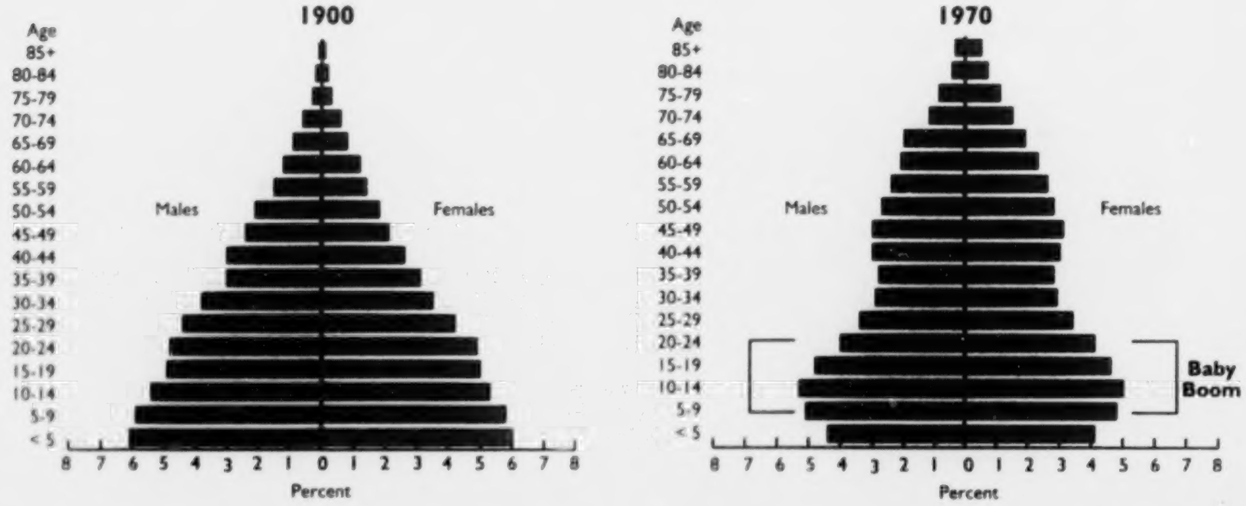
U.S. Population and Population Age 65 and Older, 1900-2050

Year	Population in thousands		Percent	Percent increase from preceding decade	
	Total	Age 65+	Age 65+	Total	Age 65+
1900	75,994	3,099	4.1	—	—
1910	91,972	3,986	4.3	21.0	28.6
1920	105,711	4,929	4.7	14.9	23.7
1930	122,755	6,705	5.5	16.1	36.0
1940	131,669	9,031	6.9	7.3	34.7
1950	152,271	12,397	8.1	15.6	37.3
1960	180,671	16,675	9.2	18.7	34.5
1970	205,502	20,107	9.8	13.5	20.6
1980	227,225	25,707	11.3	10.6	27.9
1990	249,415	31,224	12.5	9.8	21.5
Projections					
1995	263,434	33,649	12.8	—	—
2000	276,241	35,322	12.8	10.8	13.1
2010	300,431	40,104	13.3	8.8	13.5
2020	325,942	53,348	16.4	8.5	33.0
2030	349,993	70,175	20.1	7.4	31.5
2040	371,505	77,014	20.7	6.1	9.7
2050	392,031	80,109	20.4	5.5	4.0

Source: U.S. Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1970* (Washington, DC: GPO, 1975); and *Current Population Reports* P25-1104 (Washington, DC: GPO, 1993), Table 2.

Figure 1

U.S. Population by Age and Sex, 1900, 1970, 1995, and 2030



Source: U.S. Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1970* (Washington, DC: GPO, 1975); and *Current Population Reports* P25-1104 (Washington, DC: GPO, 1993), Table 2.

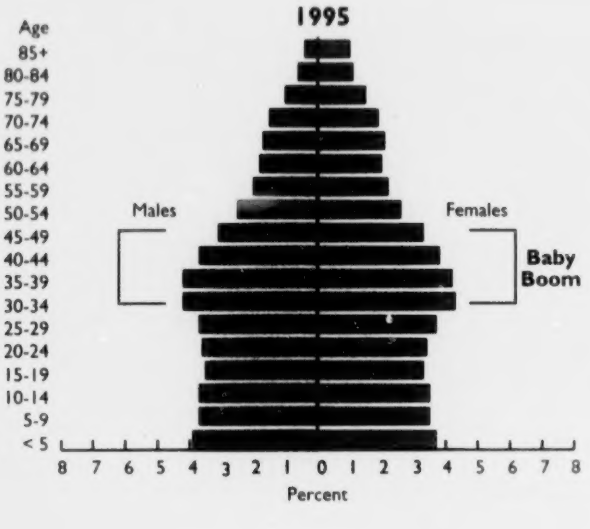
These recent arrivals have added further to the size of America's older population.

Although the population age 65 and older quadrupled during the first half of the 20th century, the pace of growth is slowing as the relatively small cohort born during the Great Depression of the 1930s moves into old age. After the first baby boomers turn 65 in 2011, however, the ranks of the older population will begin to swell again. After 2030, the older population's rate of increase will fall sharply as the smaller baby-bust generation begins to turn age 65. By the middle of the 21st century, there will be 80 million people age 65 or older, roughly one in five Americans.

Because the number of older persons grew faster than the overall population, the older population's share of total population almost doubled—from 4 to 8 percent—between 1900 and 1950. By 1995, the percent age 65 and older reached nearly 13 percent of the U.S. population. Although declining mortality and the aging of increasingly larger generations account for the numbers of elderly, their share of the total U.S. population owes much to trends in fertility. Except during the baby boom (1946 to 1964), U.S. birth rates have moved downward throughout this century. In the last quarter of the century, American women have averaged 2.1 or fewer births each. Such long-run fertility declines enlarge the share of the population in older ages because fewer children are born to fill out the lower end of the age spectrum.

The demographic trends of the 20th century are reflected in the population pyramids appearing in Figure 1. In 1900, high fertility assured that each new generation was larger than the one that preceded it. The United States had a young population with relatively few older persons. As fertility fell and more people survived to old age, the elderly's share of total population climbed. By 1970, this growing elderly population crowned a population pyramid that had been pinched in the middle by the small cohorts born during the 1930s Depression. The bottom of the pyramid bulged with the baby boomers, who were between 6 and 24 years of age in 1970. The baby boomers temporarily "younged" the U.S. population, but the falling fertility rates during the 1970s produced the smaller "baby bust" cohort and population aging resumed. By 1995, the baby boomers had moved to

The population age 65 and older quadrupled during the first half of the 20th century.



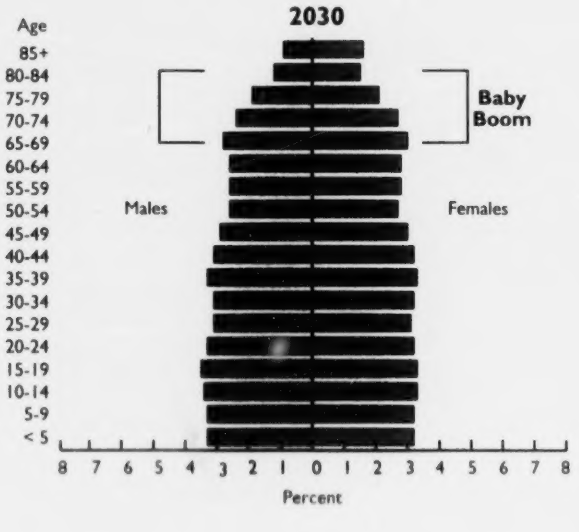
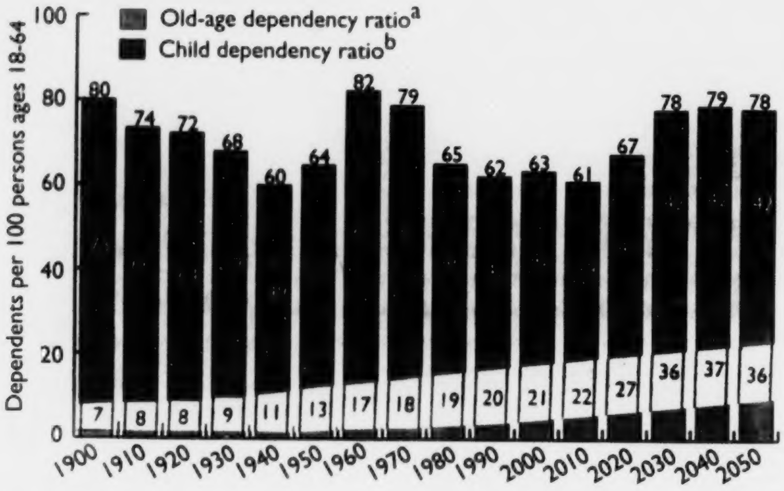


Figure 2

Dependency Ratios for Child and Older Populations, United States, 1900-2050



[a] Old-age dependency ratio is the number of persons age 65 and older per 100 persons of working age (ages 18-64).

[b] Child dependency ratio is the number of children under age 18 per 100 persons of working age (ages 18-64).

Source: U.S. Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1970* (Washington, DC: GPO, 1975); and *Current Population Reports* P25-1104 (Washington, DC: GPO, 1993), Table 2.

the middle of the population pyramid, raising the median age of Americans to 34 years from 28 in 1970.[1] By the third decade of the 21st century, however, this entire generation will have joined the ranks of the older population, and the median age of the U.S. population is projected to be 38.6 years.

The aging of the U.S. population has prompted concern and even alarm about society's capacity to pay for pensions, finance health care for chronically ill elders, and offer the personal assistance that disabled older adults need in their daily lives. This capacity will depend largely on the long-run performance of the economy, a trend that is more difficult to forecast than the inevitable aging of generations already born. From a purely demographic perspective, however, a society's ability to support its oldest members depends not only on the number of elderly in relation to the number of "working age" breadwinners, taxpayers, and caretakers, but also on the number of dependent children. The number of persons age 65 and older per 100 adults ages 18 to 64 nearly tripled between 1900 and 1990—from 7 to 20—while the relative number of children declined (see Figure 2). Overall dependency is lower now than it was in the early decades of the 20th century when fertility was higher, and substantially lower than in the 1960s and 1970s when the baby boom was young. Today, both young and old can look to nearly 60 million middle-age baby boomers for support. The societal burden will become much heavier in the 21st century when the relative number of old-age dependents begins to climb sharply.

Aging of the Elderly Population

The older population is growing older. In part, because of gains in life expectancy at advanced ages, the population age 85 and older makes up the fastest growing age group in the U.S. population. The number of American centenarians, which more than tripled to 52,000 between 1980 and 1995, may reach 1 million by the middle of the 21st century. Because advanced old age is associated with chronic illness and functional impairments, the aging of the older population portends a substantial increase in the need for health care and supportive social services.

The relatively vigorous "young-old" (ages 65 to 74) will continue to make up the majority of older Americans until about 2030. After that time, people age 75 or older will account for more than half of all elderly. By the middle of the 21st century, most of the projected growth of older Americans will occur because of increases in the population age 85 and older (see Figure 3). This surge in the number of oldest old can be explained both by the aging of the baby-boom generation into extreme old age and by the continuing mortality declines at the advanced ages that many scientists expect.

Unbalanced Sex Ratio

Older women outnumber older men in almost all societies. Among Americans age 65 and older in 1995, there were 60 men for every 100 women. The disparity becomes even more marked for those age 85 and older—39 men per 100 women. This shortfall of men reflects higher male mortality at all ages. Male babies have higher infant mortality rates; men have higher death rates in the teen and young adult years (primarily from injuries and, more recently, AIDS); and middle-age and older men have higher death rates from heart disease and other chronic illnesses. Although about 105 boys are born for every 100 girls, women outnumber men by age 30 because of the higher male mortality rates. At age 64, the sex ratio, or the number of men per 100 women, is 88. At age 65 and older, the sex ratio is highly skewed, especially for some population groups. It is 69 for older whites, for example, 63 among elderly African Americans, and 76 among older Asians.

Women benefited more than men from improvements in life expectancy in this century. Consequently, the gender differentials in mortality widened and the sex ratio of men to women decreased. The lopsided sex ratio that resulted from the greater life expectancy gains for women has some negative side effects: The brunt of widowhood, solitary living, and late-life poverty has fallen on women.

The long downward slide in the sex ratio for older adults came to a surprising halt during the 1980s, probably because deaths from heart disease declined significantly for men but not for women.[2] If the sex differential in mortality continues to narrow, it may help equalize the number of men and women in the older population and ease some of the loneliness, poverty, and other ill effects of an extremely low sex ratio.

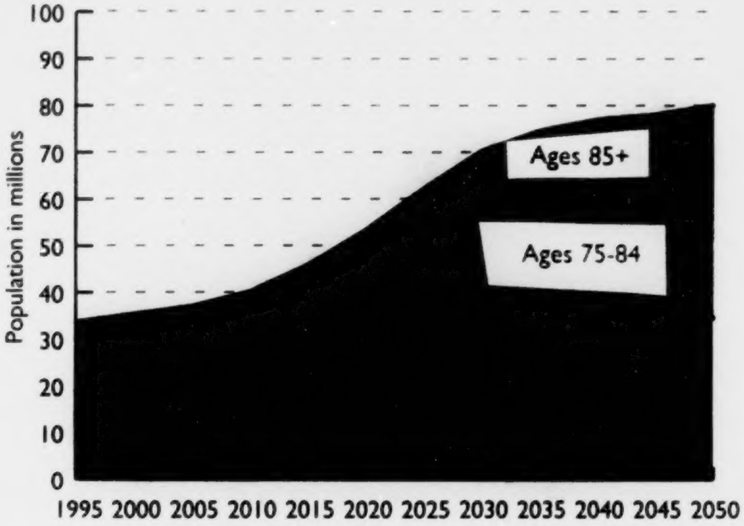
Ethnic Diversity

The older population is becoming more ethnically and racially diverse—although at a slower pace than the overall population of the United States. Because of higher birth rates and immigration rates of ethnic and racial minority groups, African-American, Hispanic, and Asian populations are increasing more rapidly than is the non-Hispanic white population. Non-Hispanic whites made up about 80 percent of the U.S. population in 1980, but this share slipped to 74 percent by 1995. Similarly, the ranks of the minority elderly are growing more rapidly than those of the non-Hispanic whites. Non-Hispanic whites' share of the elderly population declined from 88 percent in 1980 to 85 percent in 1995. This trend will accelerate in coming decades. By 2050, the non-Hispanic white share of the elderly population is projected to fall to 67 percent (see Figure 4, page 8).

The ethnic composition of the elderly minority population will change dramatically in coming decades. Although blacks and Native Americans will slowly gain population shares, the most remarkable growth is projected for Hispanics and for Asians and Pacific Islanders. Blacks are the largest minority in 1995, with 8

Figure 3

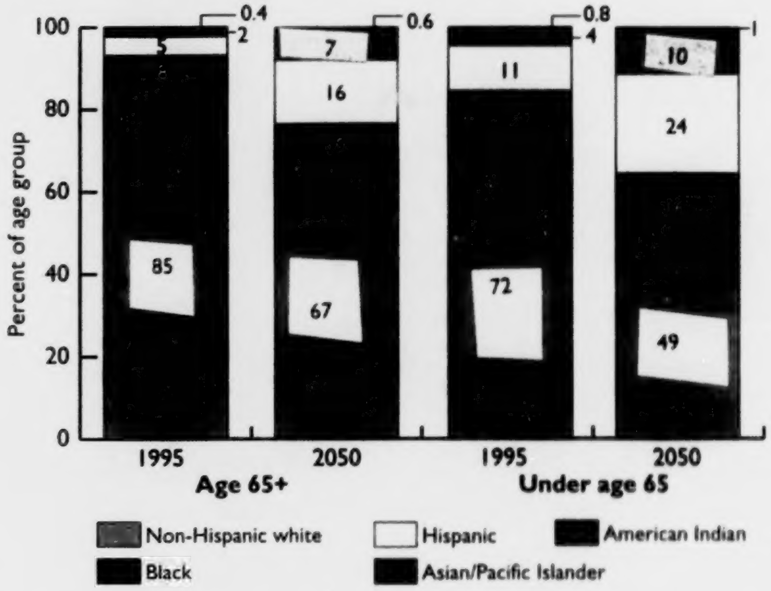
Projection of the U.S. Elderly Population by Age, 1995-2050



Source: U.S. Bureau of the Census, *Current Population Reports* P25-1104 (Washington, DC: GPO, 1993), Table 2.

Figure 4

U.S. Elderly and Non-Elderly Population by Race/ Ethnicity, 1995 and 2050



Source: U.S. Bureau of the Census, *Current Population Reports* P25-1104 (Washington, DC: GPO, 1993), Table 2.

percent of the 65-and-older population, but they may be surpassed in number by Hispanic elderly before 2020. By the middle of the 21st century, one in six Americans age 65 and older is expected to be Hispanic. Asians and Pacific Islanders are expected to grow from 2 percent of older Americans in 1995 to 7 percent in 2050.

Some senior centers already offer *tai chi* exercise classes or serve tamales for lunch, a reflection of greater ethnic diversity. As the ranks of elderly minorities grow, however, their needs, values, and preferences may call for fundamental changes in programs and services for the elderly. In general, minorities come to old age with fewer economic resources than do non-Hispanic whites. They tend to be less educated, have lower incomes and fewer assets, and are less likely to own their own homes. Many elderly immigrants speak little English, and some follow the diets and health practices of their cultures. Minority seniors also have distinctive health needs: African Americans, for example, are more likely than whites to have hypertension (high blood pressure), which requires medical screening to identify people who would benefit from diet and lifestyle changes or medication. In dealing with the frailties of old age, minority seniors have relied more on family members and less on formal services and nursing home care than have other older Americans.

Although the elderly are becoming more ethnically diverse, they still look very different from the under-65 population that helps to support them because the racial and ethnic composition of the younger population is changing even faster. In 1995, 72 percent of the population under age 65 was non-Hispanic white. By 2050, however, the under-65 population will be only 49 percent non-Hispanic white; nearly one-fourth will be Hispanic, 16 percent African American, and 10 percent Asian. The plurality of ethnic groups will eventually be reflected in the older population as these younger generations age.

International Immigration

Immigration has been one of the major engines of ethnic change among the elderly. It adds to their numbers and diversity both through the aging of immigrants who arrived as youngsters or working-age adults, and through the more recent entry of elderly immigrants. One-tenth of the U.S. population age 65 and older is foreign born. The share is much greater in states that have been important destinations for immigrants. The foreign born make up about one-fifth of the older populations of California, New York, and Hawaii.

Because people who immigrate are typically young, immigration bolsters the middle of the population age structure and slows the aging of the U.S. population. This "younging" effect is dampened by emigration from the United States, which probably ranges between 150,000 and 200,000 annually.[3] Unless immigration continues, the younging effect is short lived. Immigrants who stay on eventually grow old and ultimately add to the ranks of the elderly. Most foreign-born elderly Americans immigrated when they were young; more than half entered the United States before 1950. In 1990, however, 10 percent of foreign-born persons age 65 and older were recent immigrants who arrived during the 1980s. Many of these newcomers are among the more than 1 million older people who say they are unable to speak English very well.

Why do older people move to the United States? Nearly one-fourth (23 percent) of legal immigrants age 65 or older admitted in 1993 were refugees, but most older people who immigrated came to be closer to family members already living in the United States. More than two-thirds of older people lawfully admitted to permanent U.S. residence in 1991 gained entry as the parents of U.S. citizens, an admission category that is not subject to direct numerical limitation under U.S. immigration law.

Elderly newcomers differ markedly from the foreign-born individuals who have lived in the United States for many decades. They are younger, less likely to speak English, and more likely to trace their origins to Asia and Latin America than to Europe. More than half of the 40,000 persons age 65 and older who were granted permanent residency in 1993 were born in Asia or the Pacific region. The Soviet Union was the only European birthplace reported by significant numbers of older immigrants in 1993 (see Table 2). The former Soviet Union unleashed a flow of refugees in the early 1990s when it relaxed immigration restrictions in the face of economic hardship and the demise of communism, but this is likely to taper off over the next few years.

When immigrants enter the United States after retirement age, they seldom have pensions or other regular income. They must either depend on their kin or seek public assistance. More than one-quarter of the elderly immigrants who entered the United States since 1980 received welfare in 1989, compared with about 7 percent

Table 2

Countries of Birth for Elderly Immigrants Admitted in 1993

Country	Immigrants (in 1000s)	Percent
All countries	39.8	100.0
Former Soviet Union	7.0	17.5
Philippines	4.7	11.9
China	4.3	10.7
India	2.2	5.6
Mexico	2.2	5.6
Vietnam	2.1	5.4
Iran	1.9	4.7
Cuba	1.5	3.9
Dominican Republic	1.0	2.6
South Korea	0.8	2.1
Other	12.1	30.0

Source: Immigration and Naturalization Service, *1993 Statistical Yearbook of the Immigration and Naturalization Service* (Washington, DC: GPO, 1994), Table 13.

Skjold Photographs

More than half of elderly immigrants were born in Asia or the Pacific region.

of U.S.-born elderly.[4] In 1992, over 400,000 legal aliens age 65 and older received Supplemental Security Income (SSI), the federal assistance program for the aged, blind, and disabled. More than half had been U.S. residents for at least five years.[5] Although most noncitizens are already barred from collecting public assistance for five years after entering the United States, the rapid increase in immigrant SSI recipients has prompted proposals in Congress to limit SSI to citizens, refugees, and legal immigrants age 75 and older. Because most elderly aliens have no other income and very poor employment prospects, the consequence of eliminating federal benefits is likely to shift more responsibility for the support of destitute elderly newcomers to state and local agencies. The impact of greater local responsibility for older immigrants will weigh most heavily on the states with the most elderly immigrants, such as California and Hawaii.

Most adults remain in their own homes or communities after retirement.

Geographic Distribution

Some states and communities have proportionately more older residents than others, but in general, elderly Americans live alongside younger Americans (see Figure 5). More than half of America's older people lived in the nine most populous states in 1994. California recorded over 3 million residents age 65 or older; New York and Florida each had about 2.5 million. Six other states had more than 1 million older people: Pennsylvania, Texas, Ohio, Illinois, Michigan, and New Jersey. The least populous states had proportionately smaller elderly populations: Alaska counted 28,000 persons age 65 and older, and Wyoming had 53,000.

All 50 states saw their *number* of older people increase during the 1980s, although some localities—ranging from economically depressed nonmetropolitan counties to urban areas like the Bronx—experienced a decline in their older population.[6] These increases reflect the large cohort of adults who passed the threshold of old age during the decade. Most adults remain in their own homes or communities after retirement. This "aging in place," as demographers describe it, accounted for most of the growth of the elderly in state and local areas. Some states with warm climates and lifestyle amenities also gained elderly residents through migration. Between 1980 and 1990, the most rapid increases were in less populous states such as Alaska, Nevada, Hawaii, and New Mexico, and in states that attract large numbers of elderly migrants such as Arizona and Florida.

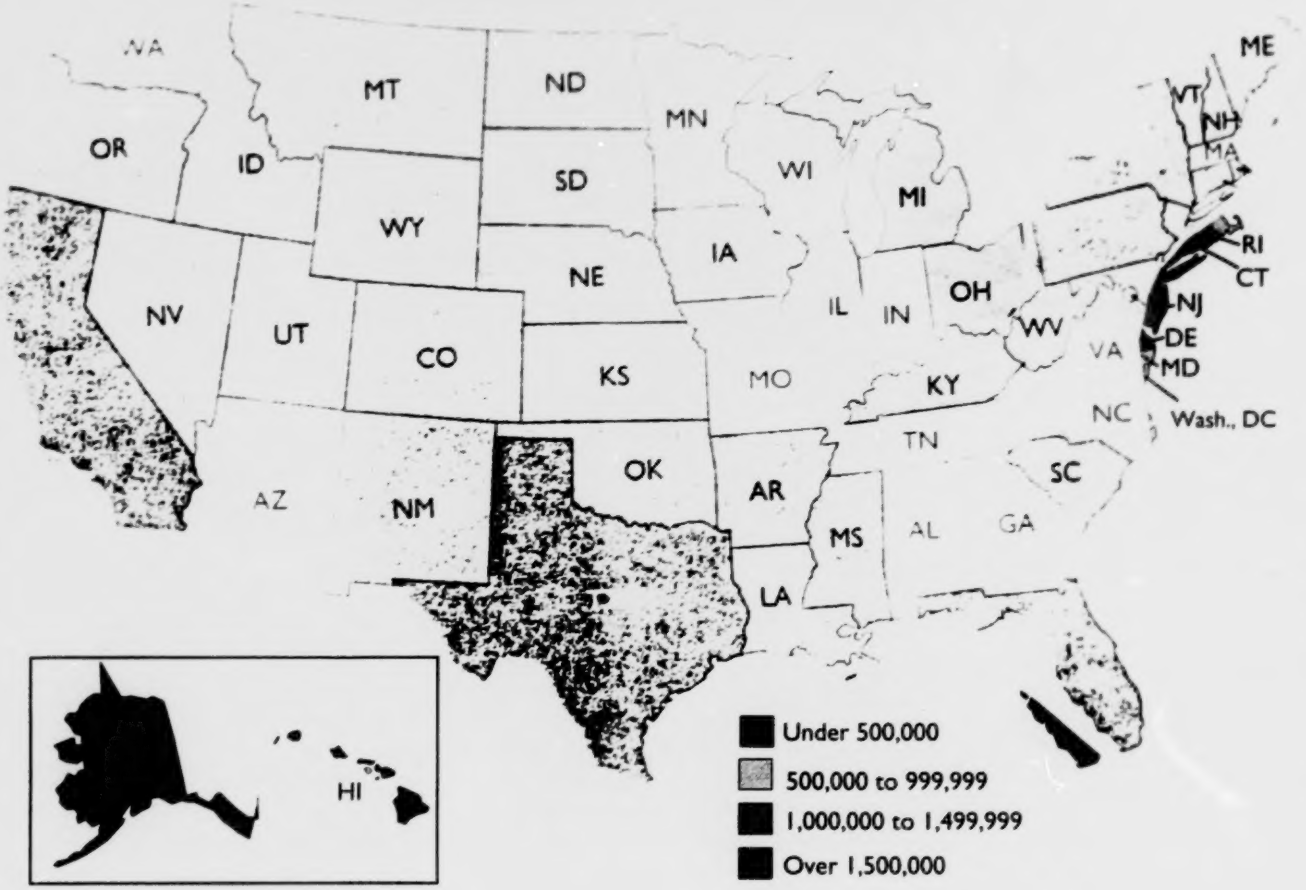
Elderly interstate migration is highly selective: It flows out of a large number of states and into relatively few. States all over the Northeast and Midwest suffered a net loss of elderly migrants to the elderly magnet states in the South and West during the 1980s.

Because the elderly who migrate tend to be younger married couples with higher incomes than the elderly friends and neighbors they leave behind, migration tends to benefit the receiving states and deplete the sending area of its wealthier retired population. According to one estimate for 1979, Florida gained $3.5 billion in individual income from elderly migration while New York lost nearly $2 billion.[7]

Interstate migration can also skew the age structure of sending and receiving states, either through the net in-migration of elderly or the net out-migration of working age people. Florida, long a magnet for retirees, has the oldest population in the United States: 18 percent was age 65 or older in 1994. Other state populations with a high share of elderly are not necessarily the high amenity areas sought by retirees; rather, they are states where younger residents left for economic reasons, such as West Virginia and Iowa. Alaska has the youngest population—only 5 percent was elderly in 1994. Alaska's elderly population boomed because of aging in place of state residents, but not through migration—in fact more

Figure 5

U.S. Population Age 65 and Older by State, 1994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GA
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HI
■ Under 500,000
▨ 500,000 to 999,999
■ 1,000,000 to 1,499,999
■ Over 1,500,000

Source: U.S. Bureau of the Census, unpublished estimates.

elderly people moved away from than moved into the state between 1980 and 1990. Except for Florida, most of the states with relatively high proportions of elderly are in the Midwest. And, except for Arizona, Montana, and Oregon, the West has a lower percentage of elderly than does the nation as a whole (see Table 3, page 12).

The *percent* elderly increased in all states during the 1980s. Changes in the older residents' share of a state's population depend not only on where older people live and move, but also on the number of births and on the geographic distribution and migration of younger people. Working-age migration affects age concentrations more than elderly migration does because there are more young people, and the young are much more likely to move than the old. Between 1993 and 1994, nearly 1 in 5 working age adults (ages 20 to 64) moved to a new residence, whereas only 1 in 18 elderly adults moved. In Midwestern Farmbelt states, for instance, the percent of elderly rose during the 1980s, in part because many young people moved to other states for jobs.

In the 1960s, 1970s, and 1980s, both the young and the old migrated away from the older industrial cities of the North. For the elderly, this typically meant retirement moves to smaller cities in the Sunbelt or nonmetropolitan areas in the West.[8] Because the young also favored these destinations during the 1970s, the in-migration of seniors did not necessar-

Table 3
U.S. Elderly Population by State in 1994 and Growth Since 1980

Region/State	Population in thousands Total	 Age 65+	 Age 85+	Percent Age 65+	 Age 85+	% Change in 65+ pop. 1980-90	 1990-94
US	**260,341**	**33,157**	**3,522**	**12.7**	**1.4**	**22**	**7**
Northeast							
Connecticut	3,275	465	53	14.2	1.6	22	5
Maine	1,240	173	20	14.0	1.6	16	6
Massachusetts	6,041	849	101	14.1	1.7	13	4
New Hampshire	1,137	136	16	12.0	1.4	21	9
New Jersey	7,904	1,078	109	13.6	1.4	20	5
New York	18,169	2,393	268	13.2	1.5	9	2
Pennsylvania	12,052	1,919	197	15.9	1.6	20	5
Rhode Island	997	155	18	15.5	1.8	19	4
Vermont	580	70	8	12.1	1.4	14	7
Midwest							
Illinois	11,752	1,481	164	12.6	1.4	14	4
Indiana	5,752	735	80	12.8	1.4	19	6
Iowa	2,829	437	59	15.4	2.1	10	3
Kansas	2,554	354	47	13.9	1.8	12	4
Michigan	9,496	1,180	121	12.4	1.3	22	7
Minnesota	4,567	572	75	12.5	1.6	14	5
Missouri	5,278	745	91	14.1	1.7	11	4
North Dakota	638	94	13	14.7	2.0	13	3
Nebraska	1,623	230	32	14.2	2.0	9	3
Ohio	11,102	1,491	155	13.4	1.4	20	6
South Dakota	721	106	14	14.7	2.0	12	4
Wisconsin	5,082	683	84	13.4	1.6	15	5
South							
Alabama	4,219	552	56	13.1	1.3	19	6
Arkansas	2,453	362	40	14.8	1.6	12	4
DC	570	77	9	13.5	1.5	5	0

Source: U.S. Bureau of the Census, unpublished estimates.

ily cause additional aging in their destination communities. In the 1980s, however, the migration patterns of the young and old diverged; the young migrated to the Sunbelt's larger metropolitan areas where jobs were located. In 1990, the elderly were somewhat less likely than the younger people to reside in a metropolitan area (74 percent versus 78 percent).[9]

Without young in-movers, small communities that became popular retirement destinations in the 1980s experienced increases in both the number and percent of elderly. These shifts in age structure can have far-reaching implications. As the elderly's share of a community's population grows, the impact of the elderly on the local tax base, social service requirements, and political orientation is heightened. Researchers do not know, however, what happens when these elderly migrants pass into extreme old age or suffer serious declines in functional capacity. Do they tend to remain in the destination community and seek community-based services or nursing home care, or do they move once again to be close to family members who can care for them? Some recent analyses suggest that the availability of kin may be one of the most important predictors of migration in later life.[10]

Living Longer

The life expectancy of Americans made extraordinary gains in this

Region/State	Population in thousands			Percent		% Change in 65+ pop.	
	Total	Age 65+	Age 85+	Age 65+	Age 85+	1980-90	1990-94
Delaware	706	89	8	12.6	1.1	36	11
Florida	13,953	2,571	257	18.4	1.8	40	9
Georgia	7,055	710	69	10.1	1.0	27	9
Kentucky	3,827	489	52	12.8	1.4	14	5
Louisiana	4,315	494	50	11.4	1.2	16	6
Maryland	5,006	559	55	11.2	1.1	31	9
Mississippi	2,669	332	36	12.4	1.4	11	4
North Carolina	7,070	885	83	12.5	1.2	33	11
Oklahoma	3,258	443	52	13.6	1.6	13	5
South Carolina	3,664	435	38	11.9	1.0	38	11
Tennessee	5,175	658	69	12.7	1.3	20	7
Texas	18,378	1,868	196	10.2	1.1	25	9
Virginia	6,552	725	70	11.1	1.1	32	10
West Virginia	1,822	280	28	15.4	1.6	13	5
West							
Alaska	606	28	2	4.6	0.3	94	27
Arizona	4,075	546	49	13.4	1.2	56	15
California	31,431	3,346	342	10.6	1.1	30	8
Colorado	3,656	367	39	10.0	1.1	33	12
Hawaii	1,179	142	12	12.0	1.0	64	15
Idaho	1,133	132	14	11.7	1.2	29	9
Montana	856	114	12	13.3	1.5	26	7
Nevada	1,457	165	10	11.3	0.7	94	30
New Mexico	1,654	181	17	10.9	1.0	41	12
Oregon	3,086	422	45	13.7	1.5	29	8
Utah	1,908	168	17	8.8	0.9	37	13
Washington	5,343	618	65	11.6	1.2	33	8
Wyoming	476	53	5	11.1	1.1	27	12

century. In 1900, a newborn could expect to live only 47.3 years. By 1993, U.S. life expectancy was 75.5 years—a gain of 28.2 years (see Table 4, page 14).

Before improved sanitation, better nutrition, and medical advances curbed many acute and infectious diseases, high levels of infant and child mortality depressed overall life expectancy; thus, initial increases in overall life expectancy owed more to the improved odds of infants reaching adulthood than to a greater likelihood of adults surviving to old age. While infant mortality remains higher than the national average in some localities and among some minority groups, the U.S. rate is low by world standards—8.3 deaths to infants under age one per 1,000 births in 1993. Children's crude death rates are now so low—an estimated 30 deaths annually per 100,000 children age 1 to 14 in 1993—that only small improvements can be expected in the average mortality of U.S. children.

Deaths are concentrated among the old. In 1993, 73 percent of all deaths occurred to persons age 65 and older; 23 percent occurred to persons age 85 and older. Although deaths averted among the old contribute fewer years of remaining life than can infant lives saved, declining death rates among the 65-and-older population have become an important force for gains in overall life expectancy.

The effect of these recent gains at older ages may be offset by recent increases in mortality for young adults.

Table 4

Life Expectancy at Birth and at Age 65 by Sex, 1900-1993

Year	Life expectancy in years					
	At birth			At age 65		
	Total	Male	Female	Total	Male	Female
1900[a]	47.3	46.3	48.3	11.9	11.5	12.2
1950	68.2	65.6	71.1	13.9	12.8	15.0
1960	69.7	66.6	73.1	14.3	12.8	15.8
1970	70.8	67.1	74.7	15.2	13.1	17.0
1980	73.7	70.0	77.4	16.4	14.1	18.3
1990	75.4	71.8	78.8	17.2	15.1	18.9
1993[b]	75.5	72.1	78.9	17.3	15.3	18.9

[a] Based on 10 states and the District of Columbia (Death Registration Area); age 65 data from 1900-1902 period.

[b] Provisional data.

Source: National Center for Health Statistics, *Vital Statistics of the United States, 1989: Volume II, Mortality, Part A* (Washington, DC: GPO, 1993), Table 6-4; and unpublished data.

Provisional data for 1993 show life expectancy at birth down slightly from 1992 as a consequence of HIV, now the third leading cause of death among young adults age 25 to 44.[11]

Long-run declines in mortality contributed to the growth of the older population by permitting Americans to survive to older and older ages. Continued improvements in mortality permit the old to live even longer. In 1900, a 65-year-old could expect to live another 11.9 years. By 1993, life expectancy at age 65 had risen to 17.3 years. With a life expectancy of 10.9 years, a 75-year-old in 1993 had almost as many remaining years of life as the average 65-year-old at the beginning of the 20th century. Even at age 85 and older, Americans averaged 6.0 years of remaining life in 1993.

Longer lives for older people are a fairly recent phenomenon. Although half of the 20th century's gains in life expectancy at birth were accomplished before the 1940s, most of this reflected lower death rates among younger people. Half of this century's gains in life expectancy after age 65 occurred since 1960. In fact, the population age 65 and older gained an additional year of life just between 1980 and 1991.

Women generally live longer than men and have made greater gains in life expectancy during this century. Over the past decade, however, this gender gap has begun to narrow. In 1900, women's life expectancy at birth was 48.3 and exceeded men's by 2 years. Because women's life expectancy rose more quickly than men's, this gender gap widened. The gulf was widest in 1979, when women lived 7.8 years longer than men, on average. Life expectancy for men began to catch up to that of women in the 1980s. In 1993, female life expectancy at birth was 78.9 years while that for males was 72.1. Although the sex differential was dramatically higher in 1993 than it was at the beginning of the century, the gender gap in life expectancy—6.8 years in 1993—has narrowed by a full year since 1979.

Racial gaps in life expectancy, however, show little sign of closing. The average life expectancy for African Americans has remained six to eight years lower than for whites since the 1970s.[12] In 1993, provisional figures for life expectancy at birth were 73.0 for white men, compared with 64.7 for black men. Among women, the figures were 79.5 years for whites versus 73.7 years for blacks. Although life expectancy has improved for both racial groups, African Americans still have a striking and persistent mortality disadvantage to whites. African-American men live 8.3 fewer years than white men, on average, while African-American women can expect to live 5.8 fewer years than white women. This racial gap is just as wide as it was several decades ago, and could increase because of racial differences in AIDS and homicide deaths.

Much of the racial difference in life expectancy stems from higher mortality in younger ages. Black infants die at more than twice the rate of white and Hispanic babies, and young black males are more than twice as likely to die as young white males. By age 65, white Americans' advantage has dwindled to about two years. In 1993, black men age 65 could expect to live another 13.4 years, compared with 15.4 years for white men this age. Sixty-five-year-old black and white women had an estimated 17.0 and 19.0 remaining years of life, respectively.[13] At very advanced ages, African Americans register lower mortality rates than do whites—a surprising reversal that some demographers call the "black-white crossover" in mortality. Because African Americans are exposed to many threats to health, one might conclude that those who survive into their 80s must be especially fit. Other evidence, however, suggests that age misreporting for elderly African Americans may account for the crossover.[14] Some researchers report that older black adults—many of whom lack birth certificates and had little schooling—appear to exaggerate their age more than their better-educated white counterparts.

Table 5

Leading Causes of Death for Persons 65 and Older, 1992

Cause	Number of deaths	Percent
All causes	1,575,214	100.0
Diseases of the heart	595,314	37.8
Malignant neoplasms (cancer)	362,060	23.0
Cerebrovascular diseases (stroke)	125,392	8.0
Chronic lung diseases	78,182	5.0
Pneumonia and influenza	67,489	4.3
Diabetes mellitus	37,328	2.4
Unintentional injuries	26,633	1.7
Kidney diseases	18,711	1.2
Artherosclerosis	15,995	1.0
Septicemia	15,884	1.0

Source: National Center for Health Statistics, *Monthly Vital Statistics Reports* 43, no. 6, Supplement (Dec. 1994), Table 6.

Causes of Death

As life expectancy increased, the causes of death shifted from acute and infectious diseases of infancy and childhood to the chronic, degenerative illnesses of old age. Higher standards of living, improved public health, and medical advances such as immunizations reduced the threat posed by infectious disease. Tuberculosis was the leading cause of death in the 1800s. In the 1990s, heart disease, cancer, and strokes are the major killers of Americans and account for more than two-thirds of deaths among persons age 65 and older (see Table 5). About three-quarters of all deaths can be attributed to more than one cause. Because people often have numerous health problems by the end of life, the aging of the population contributes to an increase in the percent of deaths linked to multiple causes.[15]

Heart disease is the most frequent cause of death for older Americans. It

Skjold Photographs

Older Americans can look forward to longer lives as life expectancy at the older ages continues to increase.

There are several reasons to expect continued increases in life expectancy, especially at the older ages.

killed almost 600,000 older Americans in 1992. More than one-third (38 percent) of all deaths to persons age 65 and older are attributed to heart disease. Death rates from heart disease have fallen steadily since 1968, however, probably because of widespread reductions in smoking and improved control of high blood pressure. Progress against this disease is the major reason total mortality declined and life expectancy improved so much over the past two decades.

Malignant neoplasms (cancers) are second only to heart disease as a cause of death. They accounted for 23 percent of deaths to persons age 65 and older in 1992. Cancer deaths have actually increased among the elderly in recent decades, possibly because progress against heart disease has permitted more people to live long enough to succumb to cancer. This overall increase in cancer deaths masks declines in deaths from some specific cancers—declines that can be traced to healthier lifestyles, earlier detection, and better treatment. Deaths from stomach cancer have fallen since the 1930s, for example, because Americans eat less smoked and salted food than they once did. Uterine cancer deaths have declined, in part because routine medical screening detects cervical cancer earlier, which allows women to receive effective treatment.[16] Male deaths from lung cancer have begun to fall, too, as a consequence of declines in smoking that began three decades ago. Lung cancer deaths continue to climb, however, because recent cohorts of elderly women are more likely to have smoked than the generation that preceded them.

Although the United States long ago experienced the epidemiological transition that shifted major causes of death from infectious disease to chronic illness, both new and old infectious diseases are a health threat for older Americans. The emergence of new infectious diseases (such as AIDS and Lyme disease), newly virulent forms of known bacteria (such as Legionnaire's disease and toxic shock syndrome), and newly drug-resistant strains of tuberculosis, pneumonia, and other diseases pose substantial risks, particularly for those whose immune systems are compromised by aging, chronic health problems, chemotherapy, organ transplants, or other factors. The poor health and close quarters of nursing home residents, for example, place them at a high risk for tuberculosis.[17] Even today, pneumonia and influenza (as well as septicemia, a blood poisoning from bacterial infection) are acute infectious diseases that rank among the top 10 causes of death for older Americans.

Continued Improvements Expected

Although advances in overall life expectancy have been slowed by the AIDS epidemic, there are several reasons to expect continued increases in life expectancy, especially at the older ages.

First, several countries have achieved life expectancies that surpass those of the United States. In 1990, the United States tied for 23rd in the world in life expectancy at birth for men and ranked 15th for women.[18] The United States ranked 10th for both men and women at age 65.

Japan—with the highest life expectancy at birth and at age 65—represents a level of mortality that other developed nations might reasonably hope to attain. In 1990, the life expectancy at birth of Japanese women was 82.5 years, which exceeded that of American women by 3.7 years. Japanese men, with a life expectancy at birth of 76.2 years, outlived their American counterparts by 4.4 years.

Second, even if Americans were unable to match the Japanese, life expectancy would rise if all Americans enjoyed the higher life expectancies achieved by advantaged groups in U.S. society. Life expectancy would rise if blacks had the same mortality rates as whites, for example.

Third, many risk factors for life-threatening chronic disease (such as smoking, obesity, high blood pressure, and high cholesterol) are known and amenable to control. Reductions in these risks through healthier lifestyles and medical interventions translate into later onset of disease and added years of life, particularly at older ages. Smoking is an example of a declining risk factor: 42 percent of Americans 18 and older smoked in 1965, but only 27 percent were smokers in 1992.[19]

Does a longer life expectancy imply more healthy years of life, or simply more years of coping with increasingly severe disabilities? The answer to this question has important implications for public policy and future health costs. Scientists, however, disagree about whether the proportion of elderly with disabilities will increase as life expectancy lengthens. The possible course of morbidity and mortality over a lifetime can be illustrated by the survival curves shown in Figure 6. The lines represent the percentage of individuals at given ages who have not yet developed a chronic illness, become disabled, or died. The percentage of individuals surviving each of these three contingencies declines with age.

Longer lives do not necessarily imply better health or less disability if the mortality curve shifts toward the upper ages, but the disease onset and disability curves remain the same. Under this scenario, the percentage of people who are ill or disabled would increase. This creates a so-called "failure of success," in which medical advances permit the survival of chronically ill older people whose lives would have been cut short in the era before there was effective diagnosis and treatment of their conditions.[20] Insulin injections, for example, prolong the lives of diabetics, but these individuals may eventually live to experience disabling complications of diabetes, such as blindness. Thus, longer life expectancies could result in a sicker older population simply by changing the mix of healthy and unhealthy people.

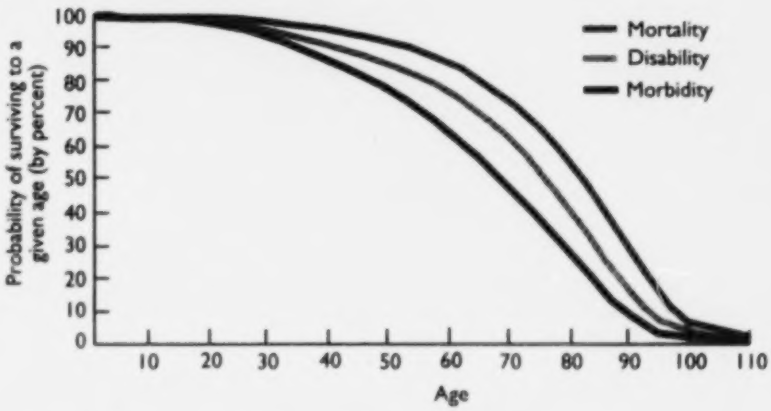
In surveys taken in the 1970s and early 1980s, older Americans reported declines in their health, consistent with the failures of success model.[21] Several factors other than worsening health might have produced increased reporting of health problems, however. For example, improvements in survey design may have elicited more complete reporting of poor health, and survey respondents may be more aware of their health problems because of better diagnostic tools and more physician contact. Older adults today may be more willing or better able to adapt their lives to accommodate their illnesses, which may also account for increases in reported health-related activity limitation.

Since the late 1980s, however, the health status of the elderly appears to have improved.[22] Expanded knowledge of the causes and treatment of many diseases delayed their onset or slowed their progress. Earlier detection and treatment of hypertension, for example, reduces the likelihood of a disabling stroke. If disease and disability can be delayed, the morbidity and mortality curves in Figure 6 shift to the right, challenging the failures of success thesis.[23]

The evidence that morbidity and disability are being delayed among the elderly appears to support the "com-

Figure 6

Mortality, Disability, and Morbidity Survival Curves for U.S. Females, 1980



Note: Mortality rates are observed; morbidity and disability rates are hypothetical.
Source: Adapted from Kenneth G. Manton and Beth J. Soldo, *Milbank Memorial Fund Quarterly* 63, No. 2 (Spring 1985): 210.

Patrick Herbert

Health improvements allow the elderly more years of independent living.

pression of morbidity" argument put forth by physician James Fries.[24] In this scenario, the onset of chronic illness will be delayed longer and longer. Fries believes that life expectancy is already close to the biological maximum for the human species and will increase little if any. If so, the years of life spent with a chronic health condition would be squeezed between the increasing age for the onset of illness and the age of death. Illness would be confined to a brief period before death.

The likelihood that morbidity will be compressed to a brief period before death depends on the validity of Fries' assumption that the human life span is about 85 years. Although empirical support for this thesis is mixed at best, the argument merits attention because it raises important issues about how old humans can live to be. Is there a fixed limit that will eventually stop the advance of the mortality survival curve?

Health deteriorates in advancing years because of age-related diseases and because of the process of aging itself. Although progress against age-related disease has extended life expectancy, death is a certainty even in the absence of chronic disease, because organ function, immunity, and the body's adaptive capacity eventually decline to a point where life cannot be sustained.

But what is the maximum number of years humans can live, and what is the likely upper limit for average life expectancy in a population? Continuing gains in life expectancy have called into question the maximum life span of 85 years assumed by Fries. Some gerontologists think that the human life span is 110 years or even 120 years. There have been documented cases of individuals living as long as 120 years, although such individuals may have extraordinary and unique genetic endowments. The Census Bureau estimates there are 52,000 people 100 years or older in the United States in 1995. If the life span of the human species is 110 or 120 years, there is little danger of life expectancy bumping up against a biological limit to life any time soon. One intriguing question, however, is whether the process of aging itself can be slowed. Scientific developments that suggest the potential malleability of the "maximum" life span include the selective breeding of long-lived fruit flies, the prolongation of life in mice by limiting calorie intake, and the cumulating evidence about the mechanisms of aging at the systemic and cellular level. If scientific advances result in a more complete understanding of complex aging processes, the middle of the 21st century may witness markedly higher life expectancies.[25]

Roles and Resources

Most older Americans entered the 1990s in relatively fortunate circumstances. This generation of elderly possesses a level of personal resources—education, income, and assets—unknown to earlier cohorts. Sixty years of Social Security and 30 years of Medicare underpin the well-being of older Americans. The elderly benefit from a host of public and private organizations, institutions, programs, and products that address their special needs. Increasingly old age is a life stage when there is time for leisure, opportunities for rewarding and productive activity, dignity, independence, and a decent standard of living. Yet, the older population is diverse, and many older people struggle with poverty, isolation, and dependence.

Leisure and Community Roles

Because their lives are not constrained by work, school, and parenting schedules, most older people—particularly those with good health and economic means—can devote time to social, recreational, and civic interests. Their activities do much more than fill a void left by the loss of work and family responsibilities. They offer opportunities to socialize, relax, and learn new things. Stimulating activity contributes to the physical and mental functioning of older Americans; it allows them to feel useful, to demonstrate their skills and knowledge, and to be entertained. Studies show that a majority of elderly regularly attend social gatherings (57 percent), read the newspaper (82 percent), and watch TV (95 percent). Older people play 32 percent of all rounds of golf, take 72 percent of all recreational vehicle trips, and make up 60 percent of all vacation cruise passengers.[26]

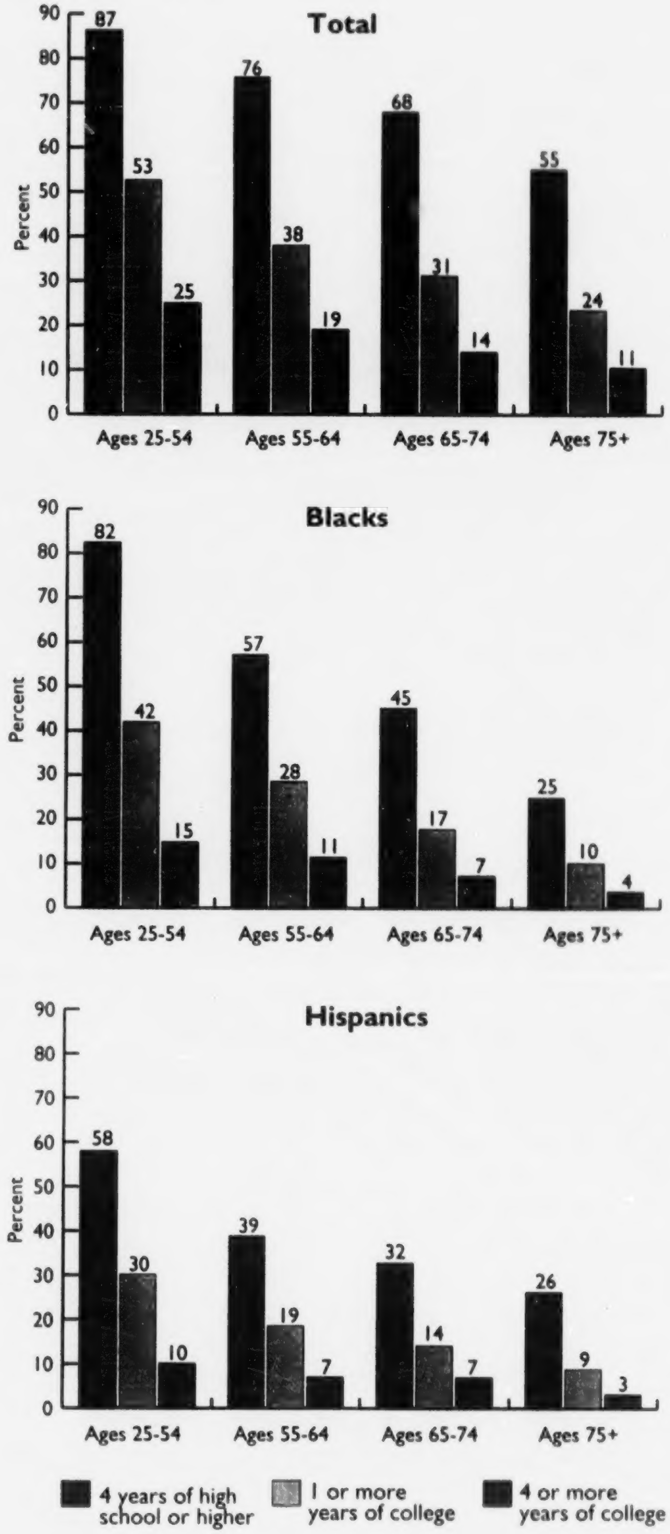
Older Americans also perform roles vital to the well-being of others. In particular, they help out family members, for example as caregivers

Most older people can devote time to social, recreational, and civic interests.

CLEO Photos

Early retirement and longer lives have spawned a new "leisure" lifestyle among the more fortunate older Americans.

Figure 7
Educational Attainment of Americans by Age and Race/ Ethnicity, 1994



Note: Hispanics may be of any race.
Source: Population Reference Bureau analysis of the March 1994 Current Population Survey.

for frail spouses and active grandchildren. In addition to informal helping roles, almost 5 million older Americans perform some unpaid volunteer work for organizations during the year. Three national volunteer programs have been designed specifically to encourage older people's contributions to their communities: the Foster Grandparents Program, the Senior Companion Program, and the Retired Senior Volunteer Program.

Although older people are almost as likely to report volunteer activity as is the general population (17 percent versus 20 percent), the focus of their efforts is somewhat different. They are more likely than the average American to volunteer for a church or religious organization, an activity reported by 43 percent of all volunteers age 65 and older. They are also more likely than the average American to help out with hospital, health, social, or welfare organizations; they are less apt to volunteer in schools, sports, and political organizations.[27]

Although older Americans may be less active than younger adults in political organizations, they are more likely to vote in elections. Fully 78 percent of persons age 65 and older reported that they were registered to vote in the U.S. presidential election of 1992—the highest registration rate of any age group. Seventy percent of older Americans said that they cast their ballots, compared with 58 percent of persons age 25 to 44. The growth of the older population combined with their high rate of voting has made senior citizens an important political factor in elections. One in five voters in the 1992 elections was age 65 or older.[28]

Education

The youngest of the older Americans—those age 65 to 74—are the best educated generation of elders ever. Two in three finished high school, compared with just over half of those age 75 or older. Future generations of elderly will have even higher levels of educational attainment (see Figure 7). Although the trend in the educational attainment of the older population is upward, a sizable number of elderly lack sufficient education to cope easily with many everyday situations. Four percent had fewer than five years of schooling in 1994—less schooling than is generally necessary to read the newspaper or the directions on a medicine label. Basic literacy is a more serious problem for Hispanic elderly (27 percent of whom have fewer than five years of schooling) and for their African-American counterparts (12 percent with less than five years school) than for other older persons.

Education is an important resource in later life. Besides having greater income and assets, older people with more education also experience fewer disabilities, later onset of chronic disease, and lower death rates. Better-educated seniors seem to have better access to information about how to promote health, how to recognize illness, and how to get treatment. Schooling shapes preferences for lifestyle and consumption, too. For example, some college towns—with their large libraries and cultural activities—have become popular retirement destinations for well-educated seniors. Interestingly, some older people are drawn to the learning opportunities of the classroom: 57,000 Americans age 65 and older were enrolled in school in October 1993. This translated into only 2 students per 1,000 seniors, but enrollment rates may rise as the educational level of older people increases.[29]

Employment

While most people over age 65 pursue leisure time activities, more than 3.8 million persons age 65 and older were either working or looking for work in 1994. These people represented 12 percent of all older Americans in the community (that is, those not living in a nursing home or other institution) and nearly 3 percent of the U.S. civilian labor force in 1994. Younger elderly men are the most likely to work: nearly 1 in 4 men age 65 to 69, but only 1 in 18 men age 75 or older, were in the labor force in 1994. About half of the elderly in the labor force worked part-time. And, consistent with their generation's lifelong work patterns, elderly men were twice as likely as their female counterparts to be in the labor force.

These figures underscore the fact that not all elderly are retired from the labor force, and that there is no one age to retire. Retirement is better characterized as a process than as an event. Not being in the labor force after the prime working years is an indicator of retirement, but retirement can be defined in many different ways. Other definitions include leaving a full-time career job of long standing, working only part-time, or collecting retirement benefits, particularly Social Security. Whether one considers oneself to be "retired" is yet another criteria. For example, older African-American men who report a disability, a sporadic work history, and no income from a private pension are apt to belong to the "unretired retireds"—neither working nor calling themselves retired.[30]

Most workers approaching retirement age say they would prefer to continue working at their career jobs, albeit with reduced hours, but relatively few employers permit phased retirement. Instead, a sizable minority move in and out of the labor force, while a few opt for self-employment. Among men age 55 and older who left the labor force, one-third re-entered, usually within a year of their withdrawal.[31] Of those re-entering, two-thirds took up full-time work and one-third worked part-time. Some retirees are actually "discouraged workers" who quit the labor force only after a long stint of unemployment. In sum, there are many routes to retirement, and an abrupt, irreversible transition from a full-time career to full-time leisure is only one.

Widespread retirement—particularly before advanced old age—is a relatively new phenomenon. In the middle of the 20th century, nearly half of all men age 65 and older were still in the labor force. Older men's labor force participation rate declined steadily until the mid-1980s (see Figure 8). Since then, it has leveled off at about 15 percent.

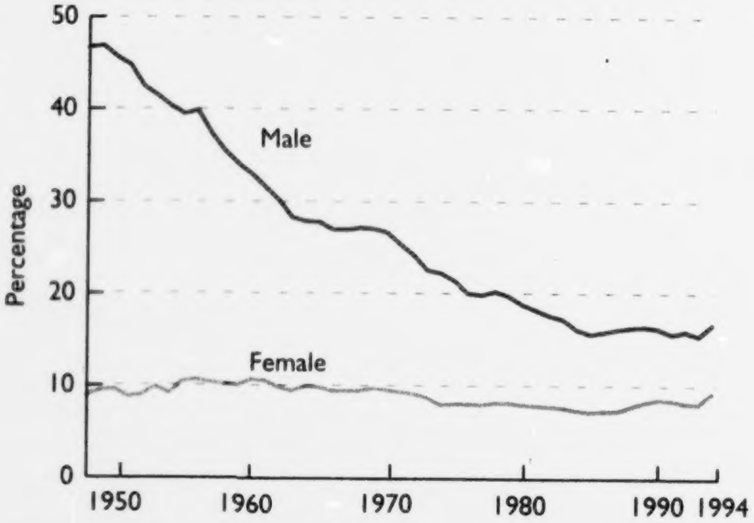
Older women, too, were drawn increasingly to retirement. However, women's late-life labor force withdrawals were offset by the greater propensity of each generation of women to work for pay. Thus, the overall trend in their labor force participation was flat—ranging from a low of 7.3 percent to a high of 10.8 percent over the post-World War II period.

Although age 65 is usually considered the normal retirement age, most people retire before that age. For more than a decade, the average age to begin receiving Social Security retirement benefits has been about 63.7 for men and 63.5 for women.[32]

Mandatory retirement policies were abolished for almost all jobs between 1978 and 1986. This allowed many older workers the option to retire or continue working. Most people appear to base their retirement decisions on their prospects for adequate retirement income.[33] While poor health is also a significant reason for quitting work, the evolution of a leisure-oriented, retirement lifestyle has fostered a strong preference to retire while still fit enough to enjoy free time to the fullest. Spouses tend to retire at about the same time, which suggests that couples make specific plans to spend more leisure time together.[34]

Figure 8

Americans Age 65 and Older in the Civilian Labor Force by Gender, 1948-1994



Source: U.S. Bureau of Labor Statistics, *Handbook on Labor Statistics*, Bulletin 2340 (Washington, DC: GPO, Aug. 1989), table 5; and *Employment and Earnings* vols. 37-41, table 3.

Men who continue to work in their 70s and 80s often have poor retirement income options, but they also are characterized by good health and an unusually strong psychological commitment to work.[35] Paid jobs are a source of satisfaction to some older people, and the rising educational attainment of the elderly point to the valuable job skills that they can offer employers. Extending working lives of older Americans would not only take advantage of the productive contributions of older people, but also reduce the demands on Social Security.

Although the trend toward lower labor force participation rates in older ages has stalled, two factors work against a significant increase in older Americans' work force involvement. First, only a serious deterioration of the economic position of middle-age and older Americans is likely to overcome entrenched preferences for retirement. The age of eligibility for full Social Security benefits is scheduled to rise from age 65 to 67 by the year 2027, but this is apt to have little impact on late-life labor force participation as long as people prefer retirement to work, and employer pensions compensate early retirees for the loss of potential income from Social Security.

Second, older people who want to work face institutional barriers to employment. Employer age discrimination and a shortage of attractive part-time jobs keep some older people from working. Also, because earnings above a given level ($11,160 in 1994) trigger reductions in Social Security retirement benefits until age 70, some older people have an incentive to avoid this "earnings test" penalty by limiting the number of hours that they work.

Older workers are proven to be good workers. They may work at a slower pace, but they usually compensate for this and other age-related performance limitations with lower turnover, less absenteeism, and greater accuracy. They are less likely to be unemployed. Only 4 percent of the labor force age 65 and older was unemployed in 1994 compared with 5 percent of those age 25 to 54. Older individuals who do want to work but cannot find a job, however, face longer spells of unemployment—evidence of the obstacles older Americans find in the workplace. The median duration of unemployment in 1993 was 16.1 weeks for men age 65 and older, compared with 9.5 weeks for all unemployed men.[36]

Unless forced by economic factors, the majority of older Americans will continue to ease out of the labor force as soon as they can afford it. Those who do want or need to work may do so, but are likely to work fewer hours and for fewer weeks per year than younger adults.

Economic Well-Being

No generation of U.S. elderly has enjoyed as high a living standard as today's older Americans. In contrast to their grandparents, today's elderly benefit from Social Security and Medicare, from private pensions, and from unprecedented postwar prosperity that permitted them to own their own homes and to save for their later years. The income mix of the older population reflects a unique package of economic resources. Social Security accounts for two of every five dollars older Americans receive (see Figure 9). It is the single largest source of income for most older people. Employer pensions and income from assets, savings, and investments account for another two dollars out of the five going to older individuals. While a paycheck is still important to those older people who continue to work, earnings are a relatively minor income source for a population composed mostly of retirees.

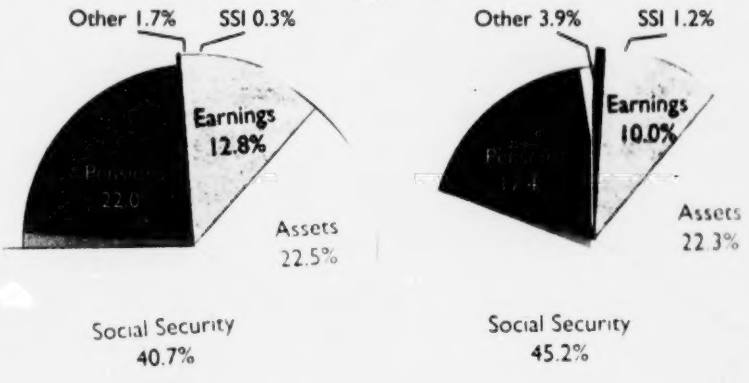
The government's role in making up for income lost at retirement cannot be overstated: If Social Security

Skjold Photographs

Although early retirement is increasingly popular, about 15 percent of elderly men are employed, many work part-time.

Figure 9

Sources of Income for the U.S. Elderly Population, 1992



Married couples age 65+

Persons age 65+ living apart from kin*

* Includes people living alone or with unrelated individuals.

Source: U.S. House of Representatives, Committee on Ways and Means, *1994 Green Book* (Washington, DC: GPO, 1994), 864-5.

and other government payments were not counted, the poverty rate for the elderly would be four times higher than its current rate, and half of all persons age 65 and older would live in poverty.[37] Government noncash benefits also improve the economic welfare of older people. Medicare, for example, provides significant health insurance at relatively little or no cost. About 5 percent of the elderly resided in subsidized or public housing in 1993, and 5 percent lived in a household receiving food stamps.[38]

Besides government cash and in-kind benefits, special tax provisions leave older people with more after-tax income. Social Security income is exempt, in whole or part, from federal taxes, and persons age 65 and older (who do not itemize) may claim an extra standard deduction. As a consequence, 46 percent of the elderly owed no federal taxes in

Box 1

Social Security and Supplemental Security Income

The Social Security Act of 1935 marked the beginning of the nation's commitment to deal with the special problems of older people. Social Security's Old Age and Survivors Insurance (OASI) program, operated by the Social Security Administration, has become the mainstay of economic support for most older people. The program provides monthly cash benefits to retired workers and their dependents as well as to the survivors of insured workers. A companion program of disability insurance (DI) provides for disabled workers who are under age 65 and their dependents. In December 1993, 42 million Americans were OASDI beneficiaries (see table).

Although most beneficiaries are age 65 or older, Social Security spans generations to offer younger workers and their families economic protections in the case of the premature death or disability of a breadwinner. In 1993, there were 3.5 million children who received Social Security benefits.

Social Security coverage is compulsory for almost all workers. To be eligible for benefits, workers must accumulate sufficient "quarters" of covered employment over their lifetimes. In 1994, one quarter of coverage—up to the maximum of four quarters per year—was credited for each $620 earned in covered employment. To be fully insured, today's new retirees—those turning age 21 after 1950—must have one quarter of coverage for every four calendar quarters between age 21 and the year in which they turn age 62, die, or become disabled.

In December 1993, the average monthly benefit for a newly retired worker was $647. Benefits are automatically adjusted each year to take account of inflation. Insured workers are eligible for reduced retirement benefits at age 62, full benefits at the "normal" retirement age of 65, and a credit for higher benefits for delays beyond age 65. Starting in the year 2000 and continuing to 2022, the age for receiving full benefits will gradually rise from 65 to 67.

Social Security is financed mainly by payroll taxes paid by the employer and employee. Most current income goes to meet current obligations. In 1992, for example, benefits paid on the old-age program totaled $255 billion. The Social Security Trust Fund currently has a surplus of funds because of steps taken by the Congress in 1983 to preserve the system's financial soundness and to help finance the future retirement of the baby-boom generation. A large share of the surplus funds is being borrowed by the federal government, however, to offset the national debt.

1993.[39] States also offer favored tax treatment for the elderly, including some programs that allow elderly homeowners to defer property taxes until after they sell their homes or die.

Despite various public provisions for seniors, not all Americans fare well in their later years. Most older people see their incomes reduced by one-third or one-half when they quit working. Without employment-related expenses, retirees generally need less income than during their working years, but a big drop in income at retirement can spell poverty. Because the amount of Social Security benefits is pegged to previous earnings, Social Security retirement income is no guarantee against poverty in old age for those who earned low wages throughout their working years (see also Box 1). Individuals who fail to qualify for adequate public and private retirement benefits typically wind up

Most older people see their incomes reduced by one-third or one-half when they quit working.

The long-run implications of this policy are still unknown, but there is considerable concern that the Social Security system will face serious problems once the baby-boom generation reaches its retirement years. To meet its obligations, the government would then have to raise taxes, cut expenses, or borrow money. Without some changes in the financing or benefit structure of Social Security, the aging of the baby boomers is likely to place major demands on the smaller cohorts of workers who will support their retirement years.

Supplemental Security Income (SSI) was initiated in 1974 to replace state programs of old-age assistance with a federally administered program based on uniform national eligibility criteria. Authorized under the Social Security Act, the program provides means-tested, monthly benefits to the needy who are elderly (that is, age 65 or older), blind, or disabled. In 1994, the maximum federal benefit was $446 for individuals and $669 for couples. Federal benefits alone are not sufficient to raise an older person above the poverty level. Although most states supplement SSI benefits with additional money, inflation has eroded the value of most state supplements. Only those older people with little or no assets are eligible for SSI, and benefits are reduced for those with more than minimal income from other sources. As more older people have become eligible for Social Security benefits, the need for public assistance for the elderly has declined. An increasing number of SSI beneficiaries are younger persons with disabilities, not the elderly. Only one-quarter of all SSI recipients in 1993 were eligible because of their age.

Who Receives Social Security Benefits, December 1993

Beneficiary	Number (in 1000s)	Percent
Retired workers	26,104	61.8
Spouses of retired workers	3,094	7.3
Disabled workers	3,726	8.8
Spouses of disabled workers	273	0.6
Widows and widowers	5,077	12.0
Children of retired, disabled, or deceased workers	3,527	8.3
Other	443	1.0
Total	42,246	100.0

Note: Numbers may not add to total because of rounding.
Source: Office of Research Statistics, Social Security Administration.

poor. Although some older people are eligible for public assistance, these benefits are not always large enough to raise recipients' incomes above the poverty line. The federal Supplemental Security Income (SSI) benefit for elderly individuals is only 75 percent of the poverty line, and SSI for older couples is only 90 percent of poverty.[40] State programs usually supplement federal payments to low-income elderly.

In 1993, 12 percent of the population age 65 and older was considered poor; that is, their annual incomes fell below the poverty threshold of $6,930 for an older individual living alone, and $8,741 for an elderly couple. The poverty rate for children under age 18—23 percent in 1993—was much higher than for the elderly, while the rate for working age adults (age 18 to 64) was the same, 12 percent.[41] Most remarkable, the 1993 poverty rate for the elderly was only about one-third the rate for 1959—35 percent. This dramatic decline is testimony to extraordinary improvements in the financial situation of older Americans in recent decades.

Although the elderly may not seem particularly disadvantaged compared with other adults, it is important to note that the dynamics of poverty differ for young and old. Younger people tend to move in and out of poverty in response to changes in their job and family situations. Older people are less likely to become poor, but once poor, they have few routes out of poverty. They are more apt to stay poor (see Table 6). This pattern of enduring poverty is reflected in older people's participation in means-tested programs of public assistance. Among those age 65 and older who began to receive food stamps during a 28-month period during the late 1980s, the median spell of program participation was 24 months versus 5 months for adults age 18 to 64.[42]

Table 6

Percentage of Americans Entering and Exiting Poverty Between 1990 and 1991, by Age

Age	From nonpoor to poor (percent)	From poor to nonpoor (percent)
0-17 years	4.3	19.0
18-64 years	2.6	24.5
65+ years	1.7	14.2

Source: U.S. Bureau of the Census, *Current Population Reports* P60-185 (Washington, DC: GPO, Sept. 1993).

Although only one in eight older Americans is officially poor, many others are classified as "near poor"—that is, those in households with incomes no greater than 150 percent of the poverty line. By this definition, about 1 in 10 families headed by an elderly person, and 1 in 4 older people living apart from kin could be categorized as near poor in 1992. These elderly individuals living just above the poverty line are highly vulnerable financially because older people of modest means do not have the resources to weather major economic setbacks. Potential sources of economic insecurity include big out-of-pocket expenses for medical care, nursing home bills, rent increases, loss of earnings from a part-time job, or drops in interest paid on a savings account. In some ways, the near-poor elderly are less secure than the poor. The modest assets and Social Security incomes of the lower-middle class make them ineligible for means-tested public programs (such as Medicaid, Supplemental Security Income, and Food Stamps) that shield the poor from late-life adversity by establishing an economic floor of cash and in-kind benefits.[43]

The cumulative advantages and disadvantages of a lifetime—coupled with the sometimes catastrophic contingencies of old age—create even greater income inequality among the older population than among the young. As a consequence, an elderly poverty population coexists with a sizable segment of very affluent seniors and an even larger group that is comfortably middle income.

In 1993, the median income for all households with a householder age 65 or older was $17,751. Elderly male householders and married-couple families fared best, but all types of families had higher median incomes than older individuals living alone, especially women (see Table 7). Elderly female householders living by themselves had a median income of less than $10,000—about three-fourths of the median income of their male counterparts. The young-old had markedly higher household incomes than did those age 75 and older who came to old age with fewer resources than recent retirees. Reflecting lifelong racial and ethnic differences in economic circumstances, whites had higher incomes than Hispanics who, in turn, had higher incomes than African Americans.

Elderly Americans have one important financial advantage compared with younger people: assets. Because the elderly have accumulated assets over a lifetime, they tend to be wealthier than the young. The median net worth among households owning at least some assets was $36,623 in 1991, while it was $88,192 for households headed by an individual age 65 or older.[44]

Although many assets do not yield income unless they are sold, investments, property, and other forms of wealth contribute to the financial security of the elderly because they can be tapped for current expenses or an emergency. The most common assets for older people are a home, car, and savings account. Older people often have most of their wealth tied up in their homes: Median home equity for homeowners age 65 and older was $63,284 in 1991. Although the home offers the security of a place to live, it usually generates no income, and seniors who need more money to live on seldom have enough income to qualify for conventional home equity loans. Reverse mortgages offer one means for elderly homeowners to swap equity for current income, but this type of mortgage has not gained wide acceptance. Under this arrangement older homeowners essentially sell their homes to a lending institution and receive payment in the form of monthly installments while they are still living in the home.

Table 7

Median U.S. Household Income by Household Characteristics, 1993

Household characteristics	Median household income, 1993
Age of householder	
Less than 64 years	$35,956
65-69 years	23,753
70-74 years	18,970
75+ years	14,328
Householders age 65 and older	
Race/ethnicity	
White	18,471
Black	11,926
Hispanic	13,284
Household type	
Married-couple family	26,197
Male-householder family	27,855
Female-householder family	22,522
Male-householder living alone	13,896
Female-householder living alone	9,980

Note: Hispanics may be of any race.
Source: U.S. Bureau of the Census, March 1994 Current Population Survey.

The economic position of the most recent cohort of elderly reflects its historical advantages.

Future Prospects

The economic position of the most recent cohort of elderly reflects its historical advantages—employment in an era of strong wage growth, expansion of Social Security and private pensions, the introduction of Medicare, the spread of home ownership, and periods of inflation that swelled home equity.

Many have wondered whether the future generation of baby-boom elderly can anticipate affluence or deprivation. In some ways, the baby boomers are better off than their parents were. Householders age 35 to 44 had a median household income of $38,400 in 1989, compared with an inflation-adjusted median of $25,100 for the same age group in 1959. The baby boomers' higher incomes came at a cost: Baby boomers stayed in school longer, put off marriage, had fewer children, and usually relied on two earners to support their families.

Table 8

Marital Status of the U.S. Population Age 65 and Older, by Gender and Race/Ethnicity, 1994

	Men			Women		
	White	Black	Hispanic[b]	White	Black	Hispanic[b]
Total (1,000s)[a]	11,470	978	608	16,111	1,532	783
Percent of total	100	100	100	100	100	100
Never married	5	6	7	4	5	8
Married, spouse present	76	63	63	42	28	37
Married, spouse absent	2	6	5	2	4	5
Widowed	13	18	18	46	55	41
Divorced	5	7	8	6	9	3

[a] Noninstitutionalized population.

[b] Persons of Hispanic origin may be of any race.

Source: Population Reference Bureau analysis of the March 1994 Current Population Survey.

Despite their current affluence and the wealth they are likely to inherit from their parents, the baby boom's financial future in old age is clouded by the possibility of a lackluster economy, housing deflation, budget-balancing cuts in future Social Security and Medicare benefits, and uncertain benefit levels associated with increasingly popular "defined contribution" pension plans, which do not guarantee a given return. Because women of the baby boom have had longer working lives than their predecessors, more will qualify for pensions than today's elderly women—although employed women are still much less likely than employed men to be covered by a pension plan. The baby boomers who did not go to college, however, have not fared as well financially as their parents, and are likely to enter old age in need of some economic support.[45]

Marital Status

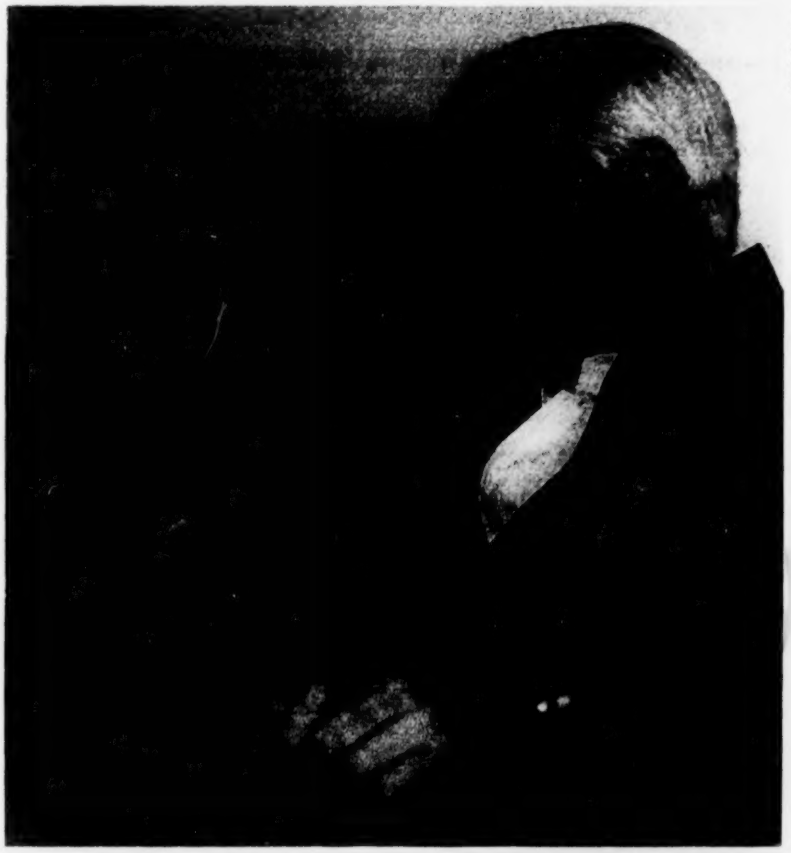
Marriage brings special benefits in old age. Couples have higher incomes than single people, especially single women. Husbands and wives offer day-to-day companionship to each other. Because spouses often provide care when one partner needs assistance, older people who are married are less likely to be institutionalized than are those who are single. Given declines in mortality and the consequent rise in age at widowhood, married couples approaching retirement age today can look forward to enjoying more years together.

Most younger elderly are married: 78 percent of men and 52 percent of women age 65 to 74 were married and living with their spouse in 1994. These percentages have increased slightly in recent decades as the age at widowhood has risen. The likelihood of being married, however, varies by gender, age, and racial and ethnic group. Among those age 85 and older, 57 percent of men—but only 13 percent of women—lived with their spouse. Wives usually outlive their husbands because women typically marry men older than themselves and because women at every age have lower mortality rates than do men. Women are widowed at an earlier age than men and live many more years without a spouse. Researchers Robert Schoen and Robert Weinick estimated that the average age at widowhood was 68.9 years for women and 72.3 years for men in 1988. Women spent an average of 15.3 years as widows, while men lived 8.4 years as widowers.[46]

Older African-American women are less likely to be married than either older white or Hispanic women (see Table 8). Among older men in 1994, however, the share of blacks who were married and living with wives was the same as for Hispanics (63 percent), and below the 76 percent recorded for white men. Because blacks, especially black men, have higher mortality rates than whites, they are more likely to be widowed. Older African Americans are also more likely than older whites to be divorced or never to have married.

Although older Hispanic women are less likely than whites to be married and living with a spouse, white and Hispanic women are quite similar in the proportion widowed. Elderly Hispanic women, however, are more likely than whites or blacks never to have married.

As we enter the 21st century, the proportion of older people who are widowed will decline as life expectancy increases. The Census Bureau projects that about 21 percent of American women age 65 to 74 will be widowed in 2040, compared with about 34 percent in 1994 and 44 percent in 1970.[47] The proportion who are divorced, however, will continue to rise for the foreseeable future. Since the 1960s, divorce has become more common and remarriage less common among American adults. As these divorced people move into old age, the percentage of elderly who are divorced rises. Because increases in divorce offset declines in widowhood, the 1980s—unlike earlier decades—witnessed no increase in the proportion of 60-to-64-year-olds who were married at the threshold of old age.[48] As divorce and the percentage who never marry increase, the elderly of the early 21st century will be no more likely to enjoy the benefits of married life than today's generation of elderly.



Family members offer vital support and companionship to elderly Americans.

CLEO Photos

Family Ties and Living Arrangements

The everyday lives of many older people are closely entwined with those of their relatives. Family members are people to think about, to socialize with, and to help in one way or another. Of course, younger adults also help out their older family members. In 1984, fully 84 percent of noninstitutionalized persons age 65 and older who received help with activities such as bathing or housework were assisted by relatives.[49]

Grown children are a particularly important source of intimacy and support for elderly women who have outlived their spouses. Although nearly all older people have at least some kin, a substantial minority have no surviving children. In 1990, for example, one-quarter of white women, and one-third of black women, age 85 and older had no living children.[50] These proportions are expected to decline, however, as the parents of the baby-boom generation enter this oldest age group. In the near term, relatively few old people will be without children who could care for them should they become disabled. By 2020 the proportion of women age 85 and older who are childless is projected to be less than half of the 1990 figure.

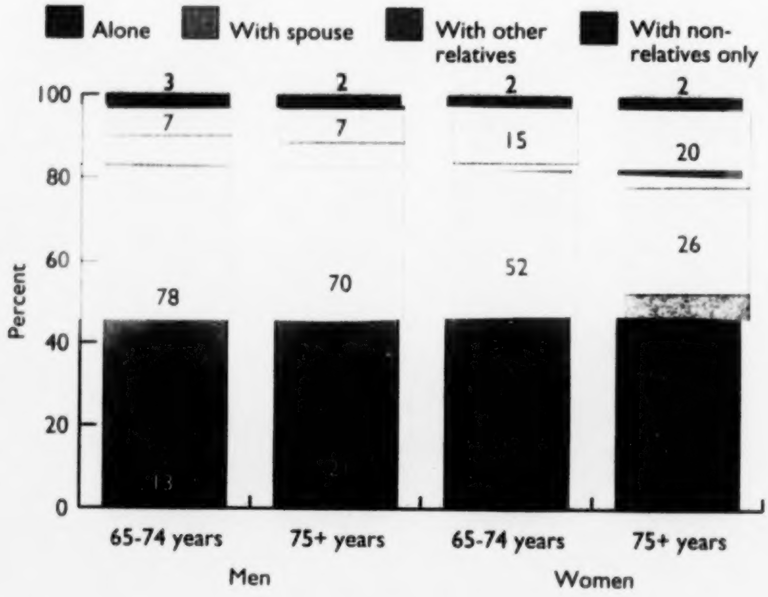
The baby-boom generation is virtually certain to arrive at old age with a higher proportion childless than did their parents' generation. Nearly 16 percent of baby-boom women who were ages 40 to 44 in 1992 had never borne a child, and most will remain childless. Consequently, the 21st century's elderly may need more formal services to substitute for the informal care so often provided by adult children.

Living Arrangements

Most older people prefer to live independently in the community and in their own homes. Among the community-dwelling elderly who make up the overwhelming majority of older

Figure 10

Living Arrangements of Elderly Men and Women, 1994



Note: Population age 65 and older not living in a nursing home or other institution.
Source: Population Reference Bureau analysis of the March 1994 Current Population Survey.

Americans, 9 out of 10 men and 8 out of 10 women maintain their own homes as either the householder or the householder's spouse. Although some older people live in the homes of family members or of unrelated individuals, this residential arrangement has become less and less common as the economic position of the older population has improved.

Living arrangements are influenced by marital status and age-related needs and resources. Because most older men and young-old women are married, the majority live with their spouses. Most women age 75 or older live alone because they continue to maintain their own homes after they are widowed (see Figure 10). But, in general, adults age 75 or older are more likely than the young-old to live with relatives other than their spouses because they are more likely to be widowed, to have low incomes, or to have difficulty caring for themselves. Black and white elderly are more likely to live alone than Hispanic elderly.

Housing and Community

Like the general population, three of every four older people make their homes in urban, as opposed to rural, areas. Six in ten elderly live in an "urbanized area" where they are about evenly divided between the central city and its suburban fringe. Although relatively few older people make their homes in very small towns, communities with 2,500 or fewer residents have high concentrations of elderly in part because such towns tend to lose younger residents to bigger communities. About 17 percent of the population of these small towns was age 65 and older in 1990, well above the percentage of the total U.S. population that is elderly.

Most people grow old in familiar surroundings. Suburbs constructed to house young families after World War II are now home to older retirees whose grown children have long since left home. After retirement, people are still anchored to their communities by home ownership, by the comfort of familiar surroundings, by friends and family, and by meaningful past experiences.[51] These attractions usually outweigh any neighborhood inconveniences. Older people, in fact, are more likely to hold favorable opinions of their housing and their neighborhood than are the younger residents.[52] The housing of older Americans does tend to be older (that is, built at least 30 years ago), but its condition is usually sound. In 1989, about 1 in 12 housing units occupied by older people had moderate or severe physical problems, typically with plumbing or heating.[53] Three-quarters of elderly households are owned, rather than rented.

Most seniors prefer single-family houses or apartments in residential neighborhoods, but there is a growing menu of housing alternatives designed to address the special needs and tastes of older people. Community board-and-care homes are usually small boarding houses that offer reasonably priced accommodations, meals, personal care, and attention to the frail elderly who do not require medical care. Congregate housing offers a residential option for more independent elderly. Typically this involves private apartments in a seniors-only building where the management provides some services like housekeeping and meals as well as common spaces for group activities. Real estate developers have also created age-segregated apartment buildings, towns, subdivisions, and mobile home parks specifically for active seniors. These communities range from a dozen or so residents to more than 45,000 residents in Arizona's Sun City. Established retirement communities founded in the 1960s, however, have experienced their own "aging in place." Many now face an unanticipated challenge—serving once active seniors who have outlived their resources and need increasing levels of personal care. Continuing-care communities have met this challenge by recruiting retirees who can still live independently while providing facilities that can address any eventual needs for assisted living or skilled nursing care.

Residential Mobility

Older people are less likely to move to a new home or community than are younger people. The strong commitment to their current neighborhood probably means fewer want to move, and they are less likely to need to move for job reasons. Elderly who are poor or frail may not be able to meet the physical, financial, and emotional demands of relocating. In March 1994, 19 percent of Americans ages 20 to 64 reported moving in the past year, but only 6 percent of those age 65 and older had made such a move.

More than half of older people's moves are within the same county (see Table 9). Short-distance moves often reflect adjustments to age-related changes in housing needs. These movers seek out housing that is more affordable, scaled to their smaller household size, less trouble to maintain, and closer to family and services. Of course, some moves are to nursing homes or into the homes of relatives.

Table 9

Geographic Mobility of Elderly and Non-Elderly Americans, March 1993 to March 1994

Type of move	Percentage of age group Under age 65	Age 65+	Ages 65-74	Ages 75-84	Ages 85+
Total	100.0	100.0	100.0	100.0	100.0
Non-movers	81.7	94.4	94.0	95.1	94.2
Movers	18.3	5.6	6.0	4.9	5.8
Same county	11.4	3.2	3.3	2.9	3.4
Different county, same state	3.5	1.1	1.2	0.9	1.0
Different state	2.8	1.2	1.3	1.0	1.2
From abroad	0.5	0.1	0.1	0.1	0.1

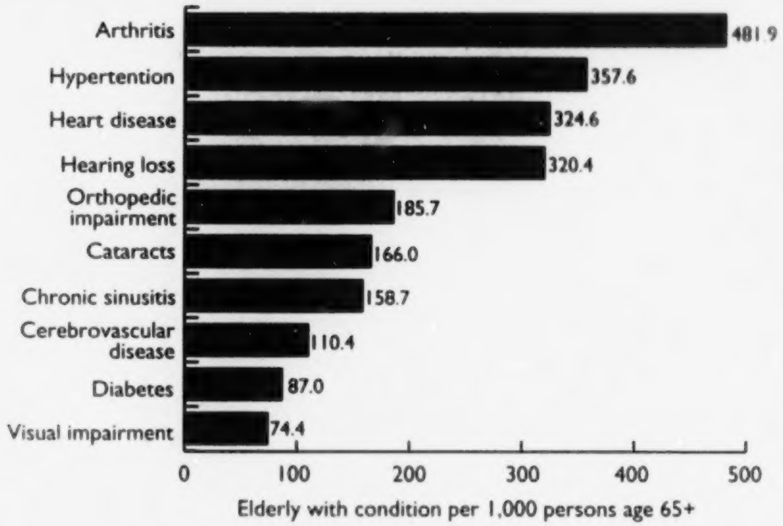
Source: Population Reference Bureau analysis of the March 1994 Current Population Survey.

Older Americans who move longer distances—across county or state lines—to relocate to different communities move for very different reasons. The affluent young-old, particularly married couples, are drawn to locales with good weather and recreational amenities that support a lifestyle of leisure activities. Retirement communities are often found in nonmetropolitan areas that have a low cost of living, but that also have only limited public transportation, health care, and social services.

As retirees become older, widowed, or disabled, they may move away from a favored retirement haven to be closer to services and to kin who can care for them. Older adults, particularly African Americans and Hispanics, who left home in their youth for better job opportunities sometimes retire to the state of their birth where they have kin and where their pensions compare favorably to local incomes.[54]

The residential and migratory patterns of older Americans affect the communities in which they live. Because retirement migration draws on the healthiest and wealthiest seniors, Snowbelt cities are left with a disproportionate share of the frail poor who are most dependent on public services. Small towns experiencing an influx of retirees can benefit economically, because newcomers create jobs (particularly in the service

Figure 11
Major Chronic Health Conditions for Elderly Americans, 1992



Note: Rate calculated for persons not living in a nursing home or other institution. People may have multiple health conditions.
Source: National Center for Health Statistics, *Vital and Health Statistics* Series 10, no. 189 (1994), 83-4.

sector) and expand the local tax base. Of course, retirees may also run up housing prices, demand the expensive public services they are accustomed to in larger communities, vote down school bonds, and undermine the distinctive local character valued by residents. An influx of elderly migrants can create tension between long-term residents and newcomers or between those who welcome the economic benefits of the migrants and those who want to preserve the status quo.

Health and Independence

Most older people report having at least one chronic health problem. Some conditions are potentially life threatening and associated with extensive need for medical care. Heart disease, for example, is reported by almost one-third of older Americans in the community, as Figure 11 shows. Other health conditions are potential threats to the quality of life. Although they may result in pain, inconvenience, and impairments requiring assistance with daily living, they are not necessarily associated with high use of medical services. Almost half of older people living in the community are troubled by arthritis, and many older people have visual and hearing impairments that interfere with performing everyday tasks. In sharp contrast, younger people seldom face functional limitations due to chronic health problems. Only 10 percent of the population age 15 to 44 (who did not live in an institution) experienced such limitations, compared with 39 percent of elderly living in the community.[55]

In addition to physical disorders, mental conditions also affect the elderly. Alzheimer's disease, the leading cause of dementia in old age, afflicted an estimated 3.8 million community-dwelling elderly in 1990.[56] Although some individuals exhibit only mild symptoms, the risk of having the disease rises sharply with advancing age—from less than 4 percent of noninstitutionalized persons age 65 to 74 to nearly half (48 percent) of those age 85 and older. Serious dementia and cognitive impairments are a major reason that older adults go into institutions. Depression, sometimes caused by poor physical health or prescription drugs, is also a major mental health problem among the elderly and has been linked to the high suicide death rate among older white men. White men age 85 and older are six times more likely to commit suicide than is the general U.S. population.[57]

Older people use more health services than younger Americans because they have more health problems. Elderly adults made 11 doctor visits in 1992, on average, while young people age 15 to 44 averaged just 5 physician contacts. Older people were hospitalized more often, too. For every 1,000 persons age 65 and older, there were 256 hospital discharges compared with only 66 per 1,000 in the younger age group. Older people also averaged longer stays in the hospital: 8.0 days versus 5.2 days.[58]

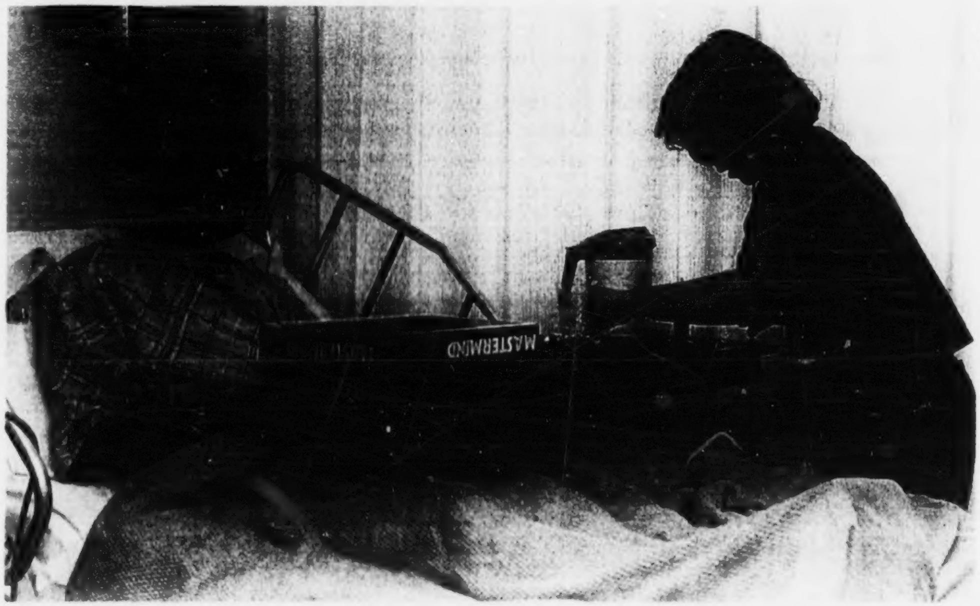
Because older people need and use more health services, their care is a significant component of all national health care expenditures (see Box 2, page 34). Medicare, for example, is expected to reach $177 billion in 1995, which is equal to 2.5 percent of the U.S. gross domestic product.[59] Because advancing age brings greater health problems, Medicare costs for someone age 85 or older average almost twice as much as for an enrollee who is 65 or 66 years of age.[60]

Functioning and Impairment

Chronic illness and permanent disability can limit the ability of older people to function independently. Knowing how well someone can manage in everyday situations is important for making decisions about clinical treatment as well as for determining eligibility for services. Level of impairment is often measured by performance on rudimentary tasks of self-care, commonly referred to as "activities of daily living" or ADLs. Examples of ADL items, ranked from greater to lesser impairment problems, include eating, incontinence, transferring from bed to chair, using the toilet, dressing, and bathing. Several national surveys show that between 5 percent and 8 percent of persons age 65 and older in the community receive assistance with at least one of these tasks.[61] Persons who are not able to perform two or more ADLs are defined as disabled under federal policy as well as in many state programs.

Although ADLs emphasize physical tasks, people need to be able to carry out complex tasks requiring higher levels of cognitive functioning if they live independently. Measures of disability that focus on the ability to carry out these more complex "instrumental activities of daily living" are designated IADLs. Examples of IADLs include preparing meals, handling money, taking medication, and using the telephone. A third approach to measuring impairment emphasizes mobility, strength, and endurance and assesses things such as the ability to lift 10 pounds or to climb stairs.

How many elderly are disabled? Estimates of the prevalence of functional disability vary depending on the items employed and the criteria selected for disability (for example, difficulty performing a task as opposed to receiving help with a task). The U.S. Census Bureau estimated that 4.4 million persons age 65 or older needed assistance with at least one personal care or IADL activity in 1986. Surveys of seniors living in the



Michael Siluk

Health care for older Americans is a significant and growing component of national health care expenditures.

Box 2

Medicare

Enacted in 1965, Medicare is the national program of basic health insurance for the elderly and certain people with disabilities. Most Americans age 65 and older are automatically entitled to the hospital insurance (HI) program (known as Medicare Part A). In fiscal year 1994, 32 million older Americans enjoyed this coverage. Financed by separate payroll taxes, Part A helps pay for hospital care, some care in a skilled nursing facility, home health care, and hospice care. The supplemental medical insurance program (known as Medicare Part B) helps pay for doctor's bills, outpatient services, diagnostic tests, physical therapy, medical supplies, and equipment such as ventilators and wheelchairs. All persons age 65 and older may enroll in Part B by paying a monthly premium ($41.10 in January 1994).

The Secretary of Health and Human Services delegates administrative responsibility for Medicare to the Health Care Financing Administration (HCFA). Day-to-day operation of the Medicare program rests with carriers, that is, private insurance companies contracted to review and pay claims. On average, Medicare pays less than half of older people's health care bills, leaving some older people with substantial out-of-pocket expenses. About three of every four older people supplement their Medicare coverage with private insurance. Some have health coverage provided by their former employer, and some buy standardized "medigap" insurance from private companies to pay for required copayments, deductibles, charges above Medicare limits, and supplies and services that Medicare will not cover (such as dental and optical services, and medications). Elderly people with incomes below the poverty line are eligible for Medicaid, a separate program also administered by HCFA, which pays for health care for indigent persons. Military veterans are eligible for health benefits through the Veteran's Administration.

Because of the rapid rise in health care costs and the growth of the older population, Medicare expenditures have soared since the program's inception. In 1992, Medicare expenses totaled $132.3 billion. To control costs, the 1983 Social Security Amendments ended payments based on what a treatment actually cost a hospital to provide the service and substituted a fixed payment scale for each medical condition or diagnostically related group (DRG). This approach encouraged hospitals to cut costs, but it also had some unexpected consequences. Patients are now discharged earlier from hospitals—a practice critics have termed "quicker and sicker." Another strategy that hospitals use to compensate for Medicare's fixed reimbursement schedule is to shift costs to other patients and their insurers. Because

community underestimate the prevalence of functional impairments among the elderly, particularly at the oldest ages, because the most seriously disabled live in nursing homes. There is, however, widespread agreement that disability increases with advancing years. Among older people living in the community in 1986, persons age 85 and older were five times more likely than those age 65 to 69 to need assistance with activities such as personal care, meal preparation, or money management.[62]

Although functional impairments are a fact of life for some older people, others maintain high levels of functioning even at advanced ages. In 1984, for instance, one-third of noninstitutionalized whites age 80 there is no "single payer" system for insuring all Americans, hospitals have an incentive to make up for Medicare costs that are not reimbursed by charging other patients more.

In 1992, Medicare also began to pay doctors and other health care professionals fixed fees for diagnostic procedures and treatments. Although doctors do not have to "accept assignment" (that is, charge only what Medicare allows), they can charge no more than 15 percent above the Medicare-approved fee.

Despite attempts at cost control and increased premium charges for Medicare Part B, short- and long-term fiscal problems remain, according to the 1993 report of the HI Trustees. To make the hospital insurance program actuarially solvent over the next 75 years under the "best guess" assumptions of economic and demographic growth, the HI payroll tax rate would have to be raised by 175 percent or Medicare program costs cut by 65 percent.[1] Planning for the future of the Medicare program will be one of the most intense and important policy debates in the years ahead.

Reference

1. U.S. House of Representatives, Committee on Ways and Means, *The 1994 Green Book* (Washington, DC: GPO, 1994), 182.

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and older reported no difficulty lifting 10 pounds, walking up 10 steps, walking one-quarter mile, or stooping, crouching, or kneeling.[63] Furthermore, some people with functional impairments recover or are rehabilitated; one-third of the health changes at age 70 and older involve improvements in health and functioning.[64] Because many people will experience some period of disability before death, demographers have developed measures of "active life expectancy"—years lived without a disability or functional impairment—to complement traditional measures of life expectancy.[65] According to one estimate, three-quarters of the remaining years of life after age 70 will be spent with sufficient functioning to permit independent living in the community.[66]

Assistance for the Disabled Elderly in the Community

Older people who need help may rely on informal help, formal assistance, or some mix of the two. Family and friends provide unpaid informal assistance that can range from occasional reciprocated favors for the relatively independent disabled to round-the-clock, long-term care for the most seriously impaired. Formal care includes nursing home care, but it also encompasses paid help for those who live in the community.

Most care for disabled older people living in the community is informal help from family and friends. It is this informal care that enables so many disabled older people to remain in their own homes, rather than live in an institution. Among dependent older people receiving help at home, two-thirds use unpaid help exclusively while one in five combine informal care with some paid assistance.[67] Close family members provide the overwhelming majority of informal assistance. Married couples largely rely on one another, with the more fit spouse carrying the heavier burden of tasks. Other elderly adults—particularly women because they typically outlive their husbands—rely more on grown children. Daughters devote more care to aging parents than do sons, but sons and their wives take on more responsibility if no sisters are available. Because day-to-day responsibility for adults with physical disabilities or dementias is extraordinarily demanding, the stresses of "caregiver burden" have been recognized as a significant problem in informal care.

The stresses of "caregiver" burden are a significant problem in informal care.

Formal assistance comes from a variety of sources, each addressing different tasks and needs such as home health care, nutrition, or home repairs. Public agencies, volunteer groups, and private individuals and businesses offer programs, services, and devices that can help the disabled elderly live at home (see Box 3). Unfortunately, older people and their families sometimes find that the products and services they need are not available in their particular community, are too expensive for their budgets, or fall short in terms of quality. Low-income older people who are unable to shop or cook may need home-delivered meals, for example, but federally funded nutrition programs for the elderly have long waiting lists in some communities. Just signing up for community services can be difficult, because these services are administered by a hodgepodge of different public and private agencies—each having different eligibility criteria and requiring separate applications. This administrative balkanization of services has created a need for case managers, typically fee-for-service social workers, who evaluate an older person's needs, design a plan of care, and arrange for services.

The use of formal services is surprisingly low among the community-dwelling elderly who need help. Fewer than one-third of older people who get assistance with heavy housework—the most frequent need—use any paid helpers.[68] Older people are also unlikely to use organized programs in their communities. Among those with at least one ADL limitation, only 11 percent were visited by a nurse or health aide and only 13 percent participated in a meal program at any time during 1984.[69]

Home-care programs have not met the expectations of either their supporters or their critics. Studies have yet to show that home care programs are cost-effective in postponing or avoiding institutionalization. Although older people who receive home care services do have more functional limitations than other elderly people, they are not necessarily those who are most at risk of being institutionalized.[70]

The availability of formal services does not seem to discourage families from providing care to aging relatives, as some critics feared. Informal caregivers and their charges are not quick to make use of paid help. When informal assistance is replaced by long-term care services, it is usually because the older person has lost his or her primary caregiver.[71]

Because they must depend on other people, the impaired elderly are sometimes vulnerable to neglect, abuse, and exploitation by kin, paid helpers, and others. All U.S. states have laws providing for adult protective services, including court-appointed guardianships for those with a diminished capacity to act on their own behalf. Individuals can plan ahead for a time when they may be incompetent to make decisions by preparing "advance directives" to guide their family members, physicians, attorneys, or others who may be called on to handle their affairs. A durable power of attorney designates someone to manage finances and perhaps make health care decisions should an individual become incompetent. A living will states a person's desires regarding the use of medical treatment, particularly the use of life support systems to prolong life when there is little hope of recovery. Medicare and Medicaid provider organizations are now required to take steps to encourage the use of such advance directives by informing patients of their rights, insuring compliance with state law, and educating staff about how the directives should be applied.

Institutional Care

Only about 5 percent of all older people live in nursing homes. This percentage remained fairly constant between 1980 and 1990. To be sure, many people will be admitted to a nursing home at some point in their lives. About one-half of women and one-third of men who turned 60 in 1990 are expected to enter a nursing

Box 3.

The Aging Network and Its Resources

Older Americans are served by a network of social service programs, providers, and professional associations that address their special needs. The beginnings of this network can be traced to the landmark Older Americans Act of 1965, which established the federal Administration on Aging (AoA) and set up State Units on Aging responsible for administering statewide aging programs. Title III of the Act provides grants for community planning, training, and services for the elderly. The Act was amended in 1973 to create Area Agencies on Aging (AAAs). These are public agencies or private nonprofit organizations charged with assuring that comprehensive and coordinated services are available at the substate level. Today, over 600 AAAs sponsor a wide range of programs that enable older people to continue to live comfortably and securely in their homes. In addition, AAAs serve as advocates for the older population to insure that service providers and public officials are responsive to the needs of older people.

The aging network also includes professional and membership organizations that have a special interest in aging. These groups pursue a variety of goals and help mobilize support for the older population through research, participation in public policy debates, and communication with members. The Gerontological Society of America and the American Society on Aging are two professional organizations whose members share research interests on aging. Organizations that take a more direct and active role on behalf of older people include, for example, the American Association of Retired Persons (AARP)—the largest mass membership organization in the country with over 32 million members; the National Council of the Aging; the National Retired Teachers Association; and the National Council of Senior Citizens.

Resources for the Elderly in the Community

Adult Day Care Centers provide health and social services to those who need daytime help with personal care.

Assistive Devices, such as phone amplification equipment, walkers, or emergency response systems for summoning help, can be obtained through special programs.

Friendly Visitors are volunteers who visit older people regularly to provide companionship.

Home Adaptations, such as grab bars or wheelchair ramps, accommodate older people's changing needs.

Home Chore Services for yard work, household repairs, laundry, and cleaning are widely available.

Nutrition Programs, such as "meals-on-wheels," bring nutritious meals to older people's homes. Other services provide inexpensive meals at senior centers and other group settings.

Home Health Care is available from nurses, physical therapists, and other health professionals.

Home Maintenance and Repair Programs offer emergency repairs and general upkeep of homes and property.

Homemaker Services help with grooming and dressing, light housekeeping, meal preparation, and food shopping.

Hospice Care in the home helps the terminally ill to cope with physical and emotional pain.

Respite Care offers short-term relief for family caregivers.

Senior Centers offer social, recreational, and educational programs for older people.

Telephone Reassurance is offered by volunteers who phone older people daily to confirm that they are well.

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Table 10

Living Arrangements of Functionally Dependent Elderly Americans, by Degree of Functional Limitation, 1984-1985

	Percent of population age 65+ limited by			
Living arrangement	IADLs only	1-2 ADLs	3-4 ADLs	5-7 ADLs
Living alone	40	35	12	5
Living with spouse	37	41	34	19
Living with others	19	18	29	17
Nursing home	4	6	26	59
Total	100	100	100	100

IADLs: Instrumental activities of daily living include preparing meals, shopping for personal items, managing money, using the telephone, going outside, and doing light housework.
ADLs: Activities of daily living include bathing, dressing, toileting, getting in or out of bed or chair, continence, eating, and mobility.
Source: National Center for Health Statistics, *Vital and Health Statistics* Series 13, no. 104 (Sept. 1990), Table B.

home at least once.[72] For people admitted with a terminal illness or with short-term convalescent needs, the stay is apt to be no more than a few months. For some elderly who require long-term personal care and supervision because of stable chronic conditions (such as stroke) and/or cognitive impairments, the stay may stretch into years.

Nursing home residents are most likely to be white widows in their 80s who are admitted after a stay in a hospital. They are usually people who require a high level of care and supervision. In the mid-1980s, 59 percent of older persons limited in five or more activities of daily living resided in a nursing home (see Table 10).[73] More than half were incontinent. Two-thirds had dementia, disorientation, or serious memory loss. Nursing home residents may need not only basic personal care but also protection against falls, diagnosis of asymptomatic infections, a regime to prevent dehydration, and management of agitation, delusions, aggression, or sleep disorders.

The decision to place an older person in an institution is usually a difficult one. It is often the last resort for the family members who find they can no longer meet the needs of their loved ones. Informal caregiving does not end with institutionalization, however. Family members monitor care, manage finances, participate in treatment decisions, and offer social and emotional support to older relatives living in nursing homes.

Long-term care is expensive, and many older people face big out-of-pocket costs when they enter a nursing home. Medicare *does not* pay for long-term care, although it does help with limited stays in a skilled nursing facility following hospitalization. Medicaid pays for care *only* if the older person is poor and has virtually no assets except the home. Since nursing home care averages $37,000 a year, lifetime savings can quickly be depleted—a "spend-down" that can eventually leave the self-paying nursing home resident poor enough to be eligible for Medicaid. Although the prospect of late-life impoverishment arouses great anxiety, research shows that the overwhelming majority of nursing home patients do not experience Medicaid spend-down.[74] When older people finally enter nursing homes, many are already so poor they qualify for Medicaid. Others arrive in such poor health that they die before exhausting their savings.[75]

Because the individual's risk of institutionalization is unpredictable and the potential economic consequences devastating, protecting older people from the costs of nursing home care is an important policy issue. Since 1988, Medicaid has permitted the spouse of an institutionalized person to keep more of the couple's income and assets to meet his or her living expenses.

A number of approaches to long-term care financing have been proposed.[76] One is private long-term care insurance. These policies are expensive because people usually wait until they are older and at high risk of being institutionalized before they buy them. Tax credits have been proposed to encourage younger people to buy policies. Another proposal is to permit people with long-term care policies to shelter more of their assets and to become eligible for Medicaid sooner, thus avoiding the Medicaid spend-down that many people fear.

Another approach for financing long-term care would be universal social insurance coverage like Medicare or Social Security. This would be expensive and could encourage greater nursing home usage, but everyone would be covered. The widespread concern with reducing the federal deficit and avoiding new taxes suggests that this proposal faces stiff opposition.

A more economical, incremental approach calls for reforming Medicaid. One strategy would allow nursing home residents to keep more assets and still qualify for Medicaid. To recover Medicaid costs, states could more aggressively lay claim to substantial housing assets freed up after the deaths of the Medicaid beneficiary and spouse. Another proposal to ease the burdensome cost of long-term care would make IRA funds that are used to pay nursing home bills free from taxes.

Skjold Photographs

Only 5 percent of elderly Americans live in nursing homes, but a greater share of elderly will live in a nursing home at some point in their lives.

Challenges for the Future

The 20th century has witnessed remarkable growth and change in America's older population. Once a small and relatively unnoticed segment of U.S. society, it is now a large and increasingly influential portion of the population. Although the pace of this growth and change has slowed in recent years, the next century will see a new explosion of population aging as the members of America's giant baby-boom generation enter their older years.

Today's generation of elders has taught us that the older years can be both the best and worst of times in an individual's life. With some exceptions, most people now enter their older years with the health and resources to pursue full and independent lives. But the aging process does take a toll. By age 80, many older individuals are troubled by poor health, difficulty accomplishing simple tasks, and dependency on others. The transition from active, independent living to a period when greater assistance is required can be a painful time for older individuals and their families. Addressing this need will be one of the greatest challenges that individuals and society will face in the 21st century.

Beyond the increasing numbers of older people that are projected for the years ahead, three other powerful demographic factors will influence the future course of America's older population: the increasing racial and ethnic diversity of the population, changing family patterns, and extensions of average life expectancy. The increasing diversity of the U.S. population will alter America's older population, bringing with it a new mix of needs and service requirements.

America's changing family patterns—particularly the trends toward smaller family size, childlessness, and divorce—will mean that today's middle-age adults will have fewer family resources to draw upon during times of need in their older years. Nonfamily assistance, most likely in the form of formal service providers, will be needed to fill this future service gap. And finally, the intriguing question of how much further life expectancy can be extended carries important public policy implications. The possibility that the average American will live to a much older age alters not only the number of older people projected for the 21st century but also the potential costs of Social Security, private pension programs, Medicare, Medicaid, and a host of other services and programs for the elderly.

The challenge of planning for an aging society will be to recognize and address the differences that already exist within today's generation of elders, as well as those likely to shape the needs of generations yet to come.

Skjold Photographs

References

1. U.S. Bureau of the Census, "Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1993 to 2050," *Current Population Reports* P25-1104, by Jennifer Cheeseman Day (Washington, DC: GPO, Nov. 1993): Table 2; and *Statistical Abstract of the United States, 1994* 114th Ed. (Washington, DC: GPO, 1994): 13.
2. U.S. Bureau of the Census, "Population Trends in the 1980s," *Current Population Reports* P23-175 (Washington, DC: GPO, 1992): 4.
3. Philip Martin and Elizabeth Midgley, "Immigration to the United States: Journey to an Uncertain Destination," *Population Bulletin* 49, no. 2 (Washington, DC: Population Reference Bureau, Sept. 1994): 4-5.
4. Michael Fix and Jeffery S. Passel, *Immigration and Immigrants: Setting the Record Straight* (Washington, DC: Urban Institute, 1994), 63.
5. Charles Scott, "SSI Payments to Lawfully Resident Aliens," (Office of Supplemental Security Income, May 1993).
6. William H. Frey, "Mature Markets—Elderly Growth Patterns in U.S. Counties," *Research Reports*, no. 93-270 (Ann Arbor, MI: University of Michigan Population Studies Center, 1993); U.S. Bureau of the Census, "Sixty-Five Plus in America," *Current Population Reports* P23-178RV, prepared by Cynthia Taeuber (Washington, DC: GPO, May 1993): 5-2.
7. Charles F. Longino, Jr. and William H. Crown, "Retirement Migration and Interstate Income Transfers," *The Gerontologist* 30, no. 6 (Dec. 1990): 784-99.
8. William H. Frey, "Metropolitan Redistribution of the U.S. Elderly: 1960-70, 1970-80, and 1980-90," in *Elderly Migration and Population Redistribution*, ed. Andrei Rogers (London: Belhaven Press, 1992), 123-142.
9. U.S. Bureau of the Census, *1990 Census of Population, General Population Characteristics, United States*, CP-1-1 (Washington, DC: GPO, 1992): 21.
10. R.L. Clark and D.A. Wolf, "Proximity of Children and Elderly Migration," in *Elderly Migration and Population Redistribution: A Comparative Perspective*, ed. Andrei Rogers (London: Belhaven Press, 1992), 77-96.
11. Stanley Kranczer, "Changes in U.S. Life Expectancy," *Metropolitan Life Statistical Bulletin* 75, no. 3 (1994): 11-17.
12. National Center for Health Statistics, *Vital Statistics of the United States 1988*, vol. 2, Life Tables (Table 6-5).
13. National Center for Health Statistics, unpublished data.
14. Irma T. Elo and Samuel M. Preston, "Estimating African-American Mortality from Inaccurate Data," *Demography* 31, no. 3 (Oct. 1994): 427-58.
15. National Center for Health Statistics, "Aging in the Eighties: The Prevalence of Comorbidity and Its Association with Disability," *Advance Data*, no. 170, prepared by Jack M. Guralnik, Andrea Z. LaCroix, Donald F. Everett, and Mary Grace Kovar (May 26, 1989).
16. Gary Williams, "Causes and Prevention of Cancer," *Metropolitan Life Statistical Bulletin* 72, no. 2 (1991).
17. "Tuberculosis Increases in the United States," *Metropolitan Life Statistical Bulletin* 71, no. 4 (1991): 18.
18. National Center for Health Statistics, *Health, United States, 1993* (Hyattsville, MD: Public Health Service, 1994), 89-92.
19. Ibid., 156.
20. Ernest M. Gruenberg, "The Failures of Success," *The Milbank Quarterly* 55, no. 1 (Winter 1977): 3-24.
21. Lois M. Verbrugge, "Recent, Present, and Future Health of American Adults," *Annual Review of Public Health*, vol. 10 (1989): 333-51; and Eileen M. Crimmins, Yasuhiko Saito, and Dominique Ingegneri, "Changes in Life Expectancy and Disability-Free Life Expectancy in the United States," *Population and Development Review* 15, no. 2 (June 1989): 235-67.
22. Kenneth G. Manton, Larry S. Corder and Eric Stallard, "Estimates of Change in Chronic Disability and Institutional Incidence and Prevalence Rates in the U.S. Elderly Population from the 1982, 1984, and 1986 National Long Term Care Surveys," *The Journals of Gerontology* 48, no. 4 (July 1993): S153-66; and Eileen M. Crimmins and Dominique G. Ingegneri, "Health Trends in the American Population," in *Demography and Retirement: The 21st Century*, eds. Anna M. Rappaport and Sylvester J. Schieber (Westport, CT: Greenwood, 1992), 259-78.
23. Eileen M. Crimmins, Mark D. Hayward and Yasuhiko Saito, "Changing Mortality and Morbidity Rates and the Health Status and Life Expectancy of the Older Population," *Demography* 31, no. 1 (Feb. 1994): 168-69.
24. James F. Fries, "Aging, Natural Death and the Compression of Morbidity," *New England Journal of Medicine* 303, no. 11 (1980): 130.

25. Ricki L. Rusting, "Why Do We Age?" *Scientific American* 267, no. 6 (Dec. 1992): 130-41.
26. Elizabeth Vierck, *Fact Book on Aging* (Oxford: ABC/Clio, 1990): 78-9.
27. Howard V. Hayge, "Volunteers in the U.S.: Who Donates the Time?" *Monthly Labor Review* 114, no. 1 (Feb. 1991): 17-23.
28. U.S. Bureau of the Census, "Voting and Registration in the Election of November 1992," *Current Population Reports* P20-466 (Washington, DC: GPO, 1993): Tables A, B.
29. U.S. Bureau of the Census, "School Enrollment, Social and Economic Characteristics of Students: October 1993," *Current Population Reports* P20-479, prepared by Rosalind R. Bruno and Andrea Adams (Washington, DC: GPO, 1994): 8.
30. Rose Campbell Gibson, "Reconceptualizing Retirement for Black Americans," in *Worlds of Difference*, eds. Eleanor Palo Stoller and Rose Campbell Gibson (Thousand Oaks, CA: Pine Forge Press, 1994), 120-7.
31. Mark D. Hayward, Melissa A. Hardy, and Mei-Chun Liu, "Work After Retirement: The Experiences of Older Men in the United States," *Social Science Research* 23, no. 1 (March 1994): 82-107.
32. U.S. Social Security Administration, *Annual Statistical Supplement to the Social Security Bulletin, 1994* (Washington, DC: GPO, 1994), 262.
33. Joseph F. Quinn and Richard V. Burkhauser, "Work and Retirement," in *Handbook on Aging and the Social Sciences*, eds. Robert H. Binstock and Linda K. George (New York: Van Nostrand, 1990): 308-27.
34. David A. Weaver, "The Work and Retirement Decisions of Older Women: A Literature Review," *Social Security Bulletin* 57, no. 1 (Spring 1994): 3-24.
35. Herbert S. Parnes and David G. Sommers, "Work Experience of Men in Their Seventies and Early Eighties," *The Journals of Gerontology* 49, no. 3 (May 1994): S117-24.
36. Bureau of Labor Statistics, *Employment and Earnings* 41 (1994): 184, 198.
37. U.S. Bureau of the Census, "Measuring the Effect of Benefits and Taxes on Income and Poverty," *Current Population Reports* P60-186RD (Washington, DC: GPO, 1993): Table 2.
38. Population Reference Bureau analysis of the March 1994 Current Population Survey.
39. U.S. House of Representatives, Committee on Ways and Means, *1993 Green Book* (Washington, DC: GPO, 1993): 1564.
40. U.S. House of Representatives, Committee on Ways and Means, *1994 Green Book* (Washington, DC: GPO, 1994): 207.
41. U.S. Bureau of the Census, "Income, Poverty, and Valuation of Noncash Benefits: 1993," *Current Population Reports* P60-188 (Washington, DC: GPO, 1995): xiii.
42. U.S. Bureau of the Census, "Characteristics of Recipients and the Dynamics of Program Participation: 1987-1988," *Current Population Reports* P70-31 (Washington, DC: GPO, 1992): Table A.
43. Karen C. Holden and Timothy Smeeding, "The Poor, the Rich, and the Insecure Elderly Caught in Between," *The Milbank Quarterly* 68, no. 2 (Summer 1990): 191-219.
44. U.S. Bureau of the Census, "Household Wealth and Asset Ownership: 1991," *Current Population Reports* P70-34 (Washington, DC: GPO, 1994): Table 1.
45. *Baby Boomers in Retirement: An Early Perspective* (Washington, DC: Congressional Budget Office, 1993); and Richard A. Easterlin, Christine M. Schaefer, and Diane J. Macunovich, "Will Baby Boomers Be Less Well Off than Their Parents? Income, Wealth, and Family Circumstances Over the Life Cycle in the United States," *Population and Development Review* 19, no. 3 (Sept. 1993): 496-522.
46. Robert Schoen and Robin W. Weinick, "The Slowing Metabolism of Marriage: Figures from 1988 Marital Status Life Tables," *Demography* 30, no. 4 (Nov. 1993): 740-41.
47. U.S. Bureau of the Census, "Sixty-Five Plus in America," *Current Population Reports*, Special Studies P23-178, prepared by Cynthia M. Taeuber (Washington, DC: GPO, 1992): Table 6-1.
48. Judith Treas and Ramon Torrecilha, "The Older Population," in *Social and Economic Trends in the 1980s*, ed. Reynolds Farley (New York: Russell Sage Foundation, 1995), 47-92.
49. Esther Hing and Barbara Bloom, "Long-Term Care for the Functionally Dependent Elderly," National Center for Health Statistics, *Vital and Health Statistics* series 13, no. 104 (1990): 28.
50. Christine L. Himes, "Future Caregivers: Projected Family Structures of Older People," *The Journals of Gerontology* 47, no. 1 (Jan. 1992): S23.
51. Charles F. Longino, Jr., "Where Retirees Prefer to Live: The Geographical Distribution and Migratory Patterns of Retirees," in *The Columbia Retirement Handbook*, ed. Abraham Monk (New York: Columbia University Press, 1994), 405-16.
52. U.S. Bureau of the Census, "Our Nation's Housing in 1991," *Current Housing Reports* H121/93-2, by Timothy S. Grail (Washington, DC: GPO, 1993): 11.
53. U.S. Bureau of the Census, "Sixty-Five Plus in America," *Current Population Reports* P23-178RV, prepared by Cynthia Taeuber (May 1993): 4-18.

54. Charles F. Longino and Kenneth J. Smith, "Black Retirement Migration in the United States," *The Journals of Gerontology* 46, no. 3 (May 1991): S125-32.
55. National Center for Health Statistics, *Health, United States, 1993* (Hyattsville, MD: Public Health Service, 1994): 153.
56. Denis A. Evans, et al., "Estimated Prevalence of Alzheimer's Disease in the United States," *The Milbank Quarterly* 68, no. 2 (Spring 1990): 274.
57. National Center for Health Statistics, *Health, United States, 1993* (Hyattsville, MD: Public Health Service, 1994): 132.
58. Ibid., 171, 180.
59. U.S. House of Representatives, Committee on Ways and Means, *1994 Green Book* (Washington, DC: GPO, 1994): 1250-51.
60. National Center for Health Statistics, *Health, United States, 1993* (Hyattsville, MD: Public Health Service, 1994): 244.
61. Joshua M. Weiner, Raymond J. Hanley, Robert Clark, and Joan F. Van Nostrand, "Measuring the Activities of Daily Living: Comparisons Across National Surveys, " *The Journals of Gerontology* 45, no. 6 (Nov. 1990): S234.
62. Cynthia J. Harpine, John M. McNeil, and Enrique J. Lamas, "The Need for Personal Assistance in Everyday Activities: Recipients and Caregivers," *Current Population Reports* P70-19 (June 1990): Table A; Jack M. Guralnick and Eleanor M. Simonsick, "Physical Disability in Older Americans," *The Journals of Gerontology* 48, Special Issue (Sept. 1993): 3-10.
63. Richard M. Suzman, et al., "The Robust Oldest Old: Optimistic Perspectives for Increasing Healthy Life Expectancy," in *The Oldest Old*, eds. Richard M. Suzman, David P. Willis, and Kenneth G. Manton (New York: Oxford University Press, 1992), 341-58.
64. Eileen M. Crimmins, Mark D. Hayward, and Yasuhiko Saito, "Changing Mortality and Morbidity Rates and the Health Status and Life Expectancy of the Older Population," *Demography* 31, no. 1 (Feb. 1994): 168-69.
65. Kenneth G. Manton, Eric Stallard and Korbin Liu, "Forecasts of Active Life Expectancy: Policy and Fiscal Implications," *The Journals of Gerontology* 48, Special Issue (Sept. 1993): 11-26; Andrei Rogers, Richard Rogers, and Laurence G. Branch, "Active Life Among the Elderly in the United States: Multistate Analysis of Active Life Expectancy," *Public Health Reports* 104, no. 3 (May-June 1989): 222-25; and Eileen M. Crimmins, Yasuhiko Saito, and Dominique Ingegneri, "Changes in Life Expectancy and Disability-Free Life Expectancy in the United States," *Population and Development Review* 15, no. 2 (June 1989): 235-68.
66. Eileen M. Crimmins, Mark D. Hayward, and Yasuhiko Saito, "Changing Mortality and Morbidity Rates and the Health Status and Life Expectancy of the Older Population," *Demography* 31, no. 1 (Feb. 1994): 168-69.
67. Esther Hing and Barbara Bloom, "Long-Term Care for the Functionally Dependent Elderly," National Center for Health Statistics, *Vital and Health Statistics* series 13, no. 104 (Sept. 1990): 28.
68. Ibid, 29.
69. U.S. Senate Special Committee on Aging, et al., *Aging America: Trends and Projections* (Washington, DC: U.S. Department of Health and Human Services, 1991): 168.
70. Lisa Fredman, Janet A. Droge, and David L. Rabin, "Functional Limitations Among Home Health Care Users in the National Health Interview Survey Supplement on Aging," *The Gerontologist* 32, no. 5 (Oct. 1992): 641-46.
71. Sharon L. Tennstedt, Sybil L. Crawford and John B. McKinlay, "Is Family Care on the Decline? A Longitudinal Investigation of the Substitution of Formal Long-Term Care Services for Informal Care," *The Milbank Quarterly* 71, no. 4 (Fall 1993): 601-24.
72. Cristopher M. Murtaugh, Peter Kemper, and Brenda C. Spillman, "The Risk of Nursing Home Use in Later Life," *Medical Care* 28 (1990): 952-62.
73. Esther Hing and Barbara Bloom, "Long-Term Care for the Functionally Dependent Elderly," National Center for Health Statistics, *Vital and Health Statistics* series 13, no. 104 (1990): 8.
74. Korbin Liu and Kenneth Manton, "Nursing Home Length of Stay and Spenddown in Connecticut, 1977-1986," *The Gerontologist* 31, no. 2 (April 1991):165-73; Greg Arling, et al., "Medicaid Spenddown Among Nursing Home Residents in Wisconsin," *The Gerontologist* 31, no. 2 (April 1991): 174-82.
75. Frank A. Sloan and May W. Shayne, "Long-Term Care, Medicaid, and Impoverishment of the Elderly," *The Milbank Quarterly* 71, no. 4 (Fall 1993): 775-99.
76. Joshua M. Weiner and Laurel Hixon Illston, "How to Share the Burden: Long-Term Care Reform in the 1990s," *The Brookings Review* 12, no. 2 (Spring 1994): 17-21.

Suggested Readings

Bengtson, Vern L., and Andrew Achenbaum, eds. *The Changing Contract Across Generations.* Hawthorne, NY: Aldine de Gruyter, 1993.

Binstock, Robert H., and Linda K. George, eds. *Handbook on Aging and the Social Sciences.* New York: Van Nostrand, 1990.

Crimmins, Eileen M., Mark D. Hayward, and Yasuhiko Saito. "Changing Mortality and Morbidity Rates and the Health Status and Life Expectancy of the Older Population." *Demography* 31, no. 1 (Feb. 1994): 168-69.

Easterlin, Richard A., Christine M. Schaefer, and Diane J. Macunovich. "Will Baby Boomers Be Less Well Off than Their Parents? Income, Wealth, and Family Circumstances Over the Life Cycle in the United States." *Population and Development Review* 19, no. 3 (Sept. 1993): 496-522.

Frey, William H. "Mature Markets—Elderly Growth Patterns in U.S. Counties." *Research Reports,* no. 93-270. Ann Arbor, MI: University of Michigan Population Studies Center, 1993.

Hayward, Mark D., Melissa A. Hardy, and Mei-Chun Liu. "Work After Retirement: The Experiences of Older Men in the United States." *Social Science Research* 23, no. 1 (March 1994): 82-107.

Himes, Christine L. "Future Caregivers: Projected Family Structures of Older People." *The Journals of Gerontology* 47, no. 1 (Jan. 1992): S17-S26.

Holden, Karen C., and Timothy Smeeding. "The Poor, the Rich, and the Insecure Elderly Caught in Between." *The Milbank Quarterly* 68, no. 2 (Summer 1990): 191-219.

Longino, Charles F., and William H. Crown. "Retirement Migration and Interstate Income Transfers." *The Gerontologist* 30, no. 6 (Dec. 1990): 784-99.

Manton, Kenneth G., Eric Stallard, and Korbin Liu. "Forecasts of Active Life Expectancy: Policy and Fiscal Implications." *The Journals of Gerontology* 48, Special Issue (Sept. 1993): 11-26.

Martin, Linda G., and Samuel H. Preston, eds. *Demography of Aging.* Washington, DC: National Academy Press, 1994.

Monk, Abraham, ed. *The Columbia Retirement Handbook.* New York: Columbia University Press, 1994.

Parnes, Herbert S., and David G. Sommers. "Work Experience of Men in Their Seventies and Early Eighties." *The Journals of Gerontology* 49, no. 3 (May 1994): S117-S124.

Rogers, Andrei, ed. *Elderly Migration and Population Redistribution.* London: Belhaven Press, 1992.

Rusting, Ricki L. "Why Do We Age?" *Scientific American* 267, no. 6 (Dec. 1992): 130-41.

Siegel, Jacob. *A Generation of Change: A Profile of America's Older Population.* New York: Russell Sage Foundation, 1993.

Silverstein, Merril. "Stability and Change in Temporal Distances Between the Elderly and Their Children." *Demography* 32, no. 1 (1995): 29-45.

Soldo, Beth J., and Martha Hill. "Intergenerational Transfers: Economic, Demographic, and Social Perspective." *Annual Review of Gerontology and Geriatrics,* vol. 13: *Aging, Kinship, and Social Change.* New York: Springer, 1993.

Suzman, Richard M., David P. Willis, and Kenneth G. Manton, eds. *The Oldest Old.* New York: Oxford University Press, 1992.

Tennstedt, Sharon L., Sybil L. Crawford, and John B. McKinlay. "Is Family Care on the Decline? A Longitudinal Investigation of the Substitution of Formal Long-Term Care Services for Informal Care." *The Milbank Quarterly* 71, no. 4 (Fall 1993): 601-24.

Treas, Judith, and Barbara Logue. "Economic Development and the Older Population." *Population and Development Review* 12 (1986): 645-73.

———. and Ramon Torrecilha. "The Older Population." In *Social and Economic Trends in the 1980s,* edited by Reynolds Farley. New York: Russell Sage Foundation, 1995.

Uhlenberg, Peter. "Population Aging and Social Policy." *Annual Review of Sociology* 18 (1993): 449-74.

U.S. Bureau of the Census. "Sixty-Five Plus in America." *Current Population Reports* P23-178RV, prepared by Cynthia Taeuber. Washington, DC: GPO, May 1993.

U.S. Senate Special Committee on Aging, et al. *Aging America: Trends and Projections.* Washington, DC: U.S. Department of Health and Human Services, 1991.

Weaver, David A. "The Work and Retirement Decisions of Older Women: A Literature Review." *Social Security Bulletin* 57, no. 1 (Spring 1994): 3-24.

Weiner, Joshua M., and Laurel Hixon Illston. "How to Share the Burden: Long-Term Care Reform in the 1990s." *The Brookings Review* 12, no. 2 (Spring 1994): 17-21.

Discussion Questions

1. Consider how the three components of population change (births, deaths, and migration) each may contribute to the changing proportion of elderly in the United States. In reference to Table 1, explain the dramatic shifts in the share of the population age 65 and older between 1960 and 1980, between 1980 and 1995, and the projected increase between 2010 and 2020.

2. Figure 2 shows that, while the overall dependency ratio remains fairly stable, the old-age dependency ratio has continued to grow while the child dependency ratio has fallen. How does this changing composition of the "dependent" population affect the burden on the working-age population?

3. What are some of the demographic, social, and economic consequences of scientific developments that would markedly increase average life expectancy?

4. Older Americans are much more likely to vote than younger citizens. What are some of the potential changes in public policies that could result as the number and percentage of elderly increase? Consider both long- and short-term impacts.

5. What are the consequences of higher divorce rates and increasing racial and ethnic diversity on the economic well-being of older Americans?

6. Based on the information presented in this *Population Bulletin*, compare the lives of an elderly couple in the 1990s with an elderly couple in the 2030s. What differences might there be among people of various economic strata, geographic locations, age groups, or health status?

7. Compare the characteristics of the following three types of areas, each of which includes a large proportion of older residents:
   - a central city of a metropolitan area in the Northeastern United States
   - a suburban community in Florida
   - a rural community in the Midwest

   Consider economic contributions, health care demands, determinants of the population structure, and the composition of the elderly residents.

8. Some people have the perception that older people are very mobile. Which older people are most likely to move? Why? Which older people are not likely to move? How does the mobility of older people in the United States compare to the mobility patterns of younger Americans?

9. Suggest possible changes to Medicare and to Social Security that would reflect the growth and aging of the elderly population.

Prepared by Kimberly A. Crews

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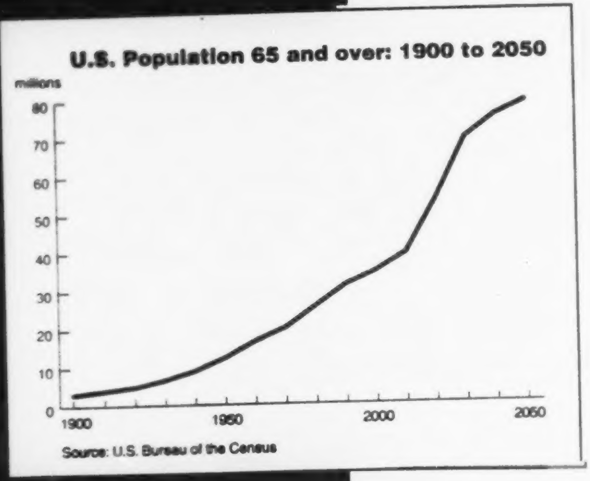
Introduction

The United States population is growing older. At the turn of the century there were 3 million elderly Americans, making up about 4 percent of the total U.S. population. Today, there are over 10 times as many elderly persons, accounting for almost 13 percent of the population. By the year 2000 there will be over 35 million elderly Americans. Who are these elderly Americans? Where do they live? What are their lifestyles? The growth of the older population has affected every aspect of our society: including families, businesses, government, and the health care system. This module contains a series of four activities that investigates the growth of the elderly population in the United States and the impact on American society.

Today there are over 10 times as many elderly persons as there were at the turn of the century.

The average life expectancy for a person born in the United States in 1900 was less than 50 years. With improvements in sanitation, nutrition, and health care, the average life expectancy today is over 75 years. Children are more likely to reach adulthood, and persons 65 and over are more likely to survive into their 70s and 80s compared to their counterparts at the turn of the century. Birth rates have declined, resulting in a greater proportion of the population over age 65. The aging of the 19 million immigrants who entered the United States during the first three decades of this century has also contributed to the growth of America's elderly population. Within the next three decades, most baby boomers (the 77 million persons born between 1946 and 1964) will reach retirement age, causing the elderly population to swell even further.


U.S. Population 65 and over: 1900 to 2050

Source: U.S. Bureau of the Census

The elderly population is characterized by racial, ethnic, and geographic diversity.

As the elderly population grows, it is also growing more diverse, reflecting demographic changes in the U.S. population as a whole over the past century. Today, one out of every 10 Americans 65 and over was born in a foreign country. Among these elderly immigrants, over half arrived in the United States before 1950. Others arrived in the United States in more recent years, often to be reunited with family members. Although whites still account for 85 percent of older Americans, the elderly population is becoming more ethnically and racially diverse. By the year 2050, when today's teenagers will start to turn 65, minorities may account for a third of elderly Americans. There are also geographic differences in the distribution of the elderly population, as shown in the data sheet included in this module. Some geographic variations result from older persons moving from one state to another (e.g. from New York to Florida), while others result from elderly Americans "aging in place" while younger persons migrate elsewhere.

over

Standards of living have increased, but many older Americans continue to live in poverty.

Older Americans in the 1990s enjoy a standard of living that was unknown to people a century ago. In addition to their longer life expectancies, elderly persons today have higher levels of income, education, and assets than their counterparts at the turn of the century. The single largest source of income for elderly Americans is Social Security. Many older persons also have employer pensions, earnings from part-time employment, assets, and investments to supplement their income. However, not all older Americans enjoy a comfortable lifestyle in their later years. The "oldest old" (85+) are the most likely to live in poverty, especially elderly widows who are living alone. Economic well being in later years is also closely linked to health status. Social Security income keeps most older persons above the poverty threshold, but may not cover medical bills, especially after the onset of a chronic illness.

American society is changing to meet the needs of the growing older population.

The growth and increasing diversity of the elderly population in the United States has affected every aspect of our society, in one way or another. The emergence of a "leisure" lifestyle among more affluent elderly Americans has created a niche for businesses to provide unique goods and services to elderly consumers. Policy-makers are paying attention to elderly Americans as well. Over three-fourths of elderly persons were registered to vote in the 1996 presidential election, more than any other age group. Political participation enables older persons to influence legislative decisions on health care, Social Security, and other important issues. New housing options have become available to meet the unique needs of elderly persons. In addition to nursing home facilities, there are now age-segregated boarding houses, private apartments, and entire towns designed for elderly living. Most older Americans prefer to live independently in their own homes, but living arrangements among the elderly are highly dependent on health, income, and marital status.

The aging of the U.S. population presents new challenges to policy-makers, families, businesses, and health service providers. What are the responsibilities of family members in providing assistance to elderly family members? What is the fate of the current Social Security system? How will America's health care system support the growing number of persons with chronic illnesses? What are the potential macro-economic effects of an aging population? These and other questions are likely to be a matter of public debate for many years to come.

Activity One

Investigating Aging in the United States

Materials:

Aging in the United States wall chart

Vocabulary:

Baby boom
Elderly
Oldest old
Support ratio (dependency ratio)
Working age population
Educational attainment
Racial/ethnic groups
Percentage
Proportion
Ratio

Objectives:

This activity involves reading the wall chart to . . .

- develop an understanding of aging in the United States
- build vocabulary related to aging
- interpret charts and graphs relating to aging
- consider implications of an aging population

Introduction:

As a larger proportion of the U.S. population enters the "elderly" age group, it is important to understand the social, economic and political implications for the country as a whole. This activity involves reading and interpretation of the Aging in the United States wall chart to develop a basic understanding of aging in the United States.

Using the *Aging in the United States* Wall Chart

1. What is the "baby-boom bulge"?
2. How has the percent of elderly in the U.S. population changed in this century?
3. What percent of the U.S. population was considered baby boomers in 1990?
4. Between 1990 and 2020, the population age 65–74 is expected to increase by what percent?
5. What proportion of the elderly population is female? What factors contribute to this ratio?
6. To what age group does the term "oldest old" refer?
7. In 1990, what percent of all elderly lived in nursing homes?
8. Which states tend to have a high proportion of elderly living in nursing homes?
9. What factors contribute to the rising number and proportion of elderly living in nursing homes?
10. Which groups among the elderly are most affected by poverty?
11. How has the economic status of the elderly changed over the past four decades?
12. How will the aging of the baby-boom generation affect the size and proportion of the elderly population in the United States?

over

13. What are some political implications of an aging population in the United States?

14. How does educational attainment relate to the economic situation of the elderly?

15. How is the education profile of the elderly in the United States expected to change by 2015? How does educational attainment vary among racial/ethnic groups?

16. Define support ratio (often referred to as dependency ratio).

17. How is the support ratio in the United States expected to change between 1990 and 2035? How will these changes affect the demand for goods and services?

18. How has the gender composition of older workers in the United States changed between 1950 and 1995? What might account for these changes?

19. How has the percentage of foreign-born among the elderly in the United States changed since 1960? What trend can be expected over the next three decades?

20. Which region of the United States is projected to experience the greatest percentage increase of elderly between 1995 and 2020?

In summary ...

Write a short essay in which you

- ▲ Describe patterns of aging in the United States
- ▲ Identify ways in which various groups (social, racial/ethnic, economic, gender) confront different experiences or consequences related to aging
- ▲ Consider the implications (social, economic, political) for the United States as its population ages
- ▲ Describe yourself (socially, economically) as an older person in 2050, based on trends shown in the wall chart.

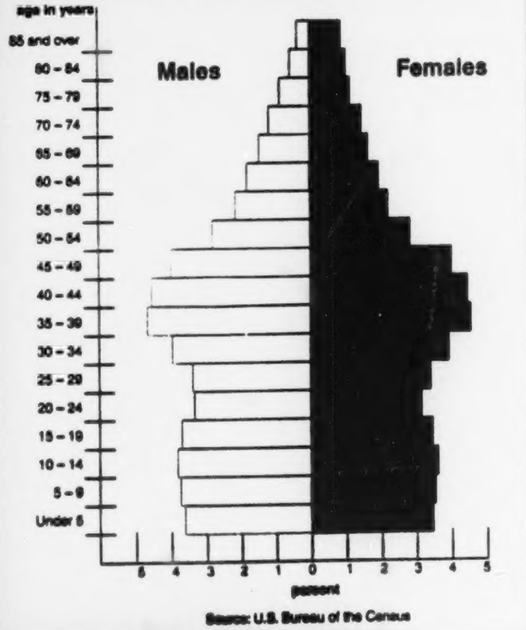
Activity Two

Graphing Aging in the United States—National Patterns

Introduction:

Population pyramids help us observe the distribution of age groups within a population. The relative size of one age group compared to another can have important social, economic, and political consequences. This activity involves construction and analysis of a series of population pyramids for the United States, past, present, and anticipated future.

Reading Population Pyramids:


Population of the United States, 1990

Source: U.S. Bureau of the Census

A population pyramid graphically displays a population's age and sex composition. By showing numbers or proportions of males and females in each age group, the pyramid creates a "picture" of a population's basic characteristics. Pyramids based on proportions or percent of population in each age-sex group (called cohorts) are best for comparing populations of different sizes. The sum of all the age-sex cohorts in the population pyramid equals 100 percent of the population.

A population pyramid is a simple bar graph constructed around a central axis, with bars to the left most commonly representing males, and those to the right, females. Each horizontal bar represents the size of an age-sex cohort as a percent of the total population. In the graph to the left, the bottom bar shows the percent of males and females who were under five years of age in 1990; the bar located at ages 30–34 on the pyramid represents all those alive and living in the United States in 1990 who were in that age cohort; and so forth up to the pyramid's top. Each year a new cohort is born and "appears" at the bottom of the pyramid, while the cohorts above it move up. As cohorts age, they inevitably lose members because of death, and may gain or lose because of migration.

Constructing Population Pyramids:

A simplified population pyramid can be constructed using age-sex data in ten-year cohorts. Working individually or in groups (as instructed), use data for 1940, 1960, 1980, 2000, or 2020 and the blank pyramid grid, provided on Activity Two Worksheet, to construct time-series population pyramids for the United States. For example, for 1940, in the grid section at the bottom of the pyramid blank, labeled "under 10 years" shade the left side of the grid to reflect the percent of the population that was male, and the right side of the grid, the percent female, using different colors for males and females. Then repeat this step for each ten-year cohort, maintaining the same colors for all males and all females.

Materials:

Activity Two Worksheet
Colored pencils

Vocabulary:

Population pyramid
Cohort
Aging population

Objectives:

This activity involves...

- ▲ construction of population pyramids
- ▲ interpretation of population pyramids
- ▲ evaluation of aging trends in the U.S. over time
- ▲ speculation about the socio economic implications of aging for the United States

over

Interpreting Population Pyramids:

A population pyramid can tell a great deal about a population at a glance. Its shape can give significant clues to a population's past and future. For example, the pyramid on the front of this page reveals a slight majority of males at the very youngest ages. This is because there are about 105 males born for every 100 females. But the top of the pyramid shows that females comprise a majority. This is because females typically outlive males. Pyramids may reveal a postwar "baby boom," as well as an "echo" effect as baby boomers start to have kids of their own. Pyramids also show the relationship between the "dependent" population (under 20 and over 64 years) and the "economically productive" population (between 20-64 years). As the U.S. population becomes older, there will be an imbalance between the "dependent" and "productive" populations, which could have serious implications in the coming years, particularly for retirement and health care systems.

In summary ...

Analyze pyramids for the United States from 1940–2020. Then discuss the following questions.

- ▲ What patterns can be observed in this series of pyramids?
- ▲ When is the "baby boom" first observed?
- ▲ Trace the movement of the "baby boom" generation through the pyramids. What effects — social, economic, political — has this generation had on the country over the years?
- ▲ When will the "baby boom" generation reach retirement age? How will this affect the "dependency ratio"?
- ▲ What are some social, economic, and political issues that are likely to emerge as the U.S. population ages?

Aging in the United States
is an education module developed by the
Population Reference Bureau
with support from the
National Institute on Aging

Activity Two Worksheet: Graphing Aging in the United States — National

Pyramid Data — (Percent)

1940	**Male**	**Female**
Under 10 years	8.18	7.94
10 to 19 years	9.21	9.07
20 to 29 years	8.46	8.77
30 to 39 years	7.46	7.57
40 to 49 years	6.55	6.39
50 to 59 years	5.14	4.81
60 to 69 years	3.26	3.22
70 years and over	1.91	2.05

1960	**Male**	**Female**
Under 10 years	11.02	10.65
10 to 19 years	8.53	8.28
20 to 29 years	6.08	6.13
30 to 39 years	6.67	6.91
40 to 49 years	6.15	6.35
50 to 59 years	4.93	5.11
60 to 69 years	3.51	3.92
70 to 79 years	1.97	2.37
80 years and over	0.58	0.83

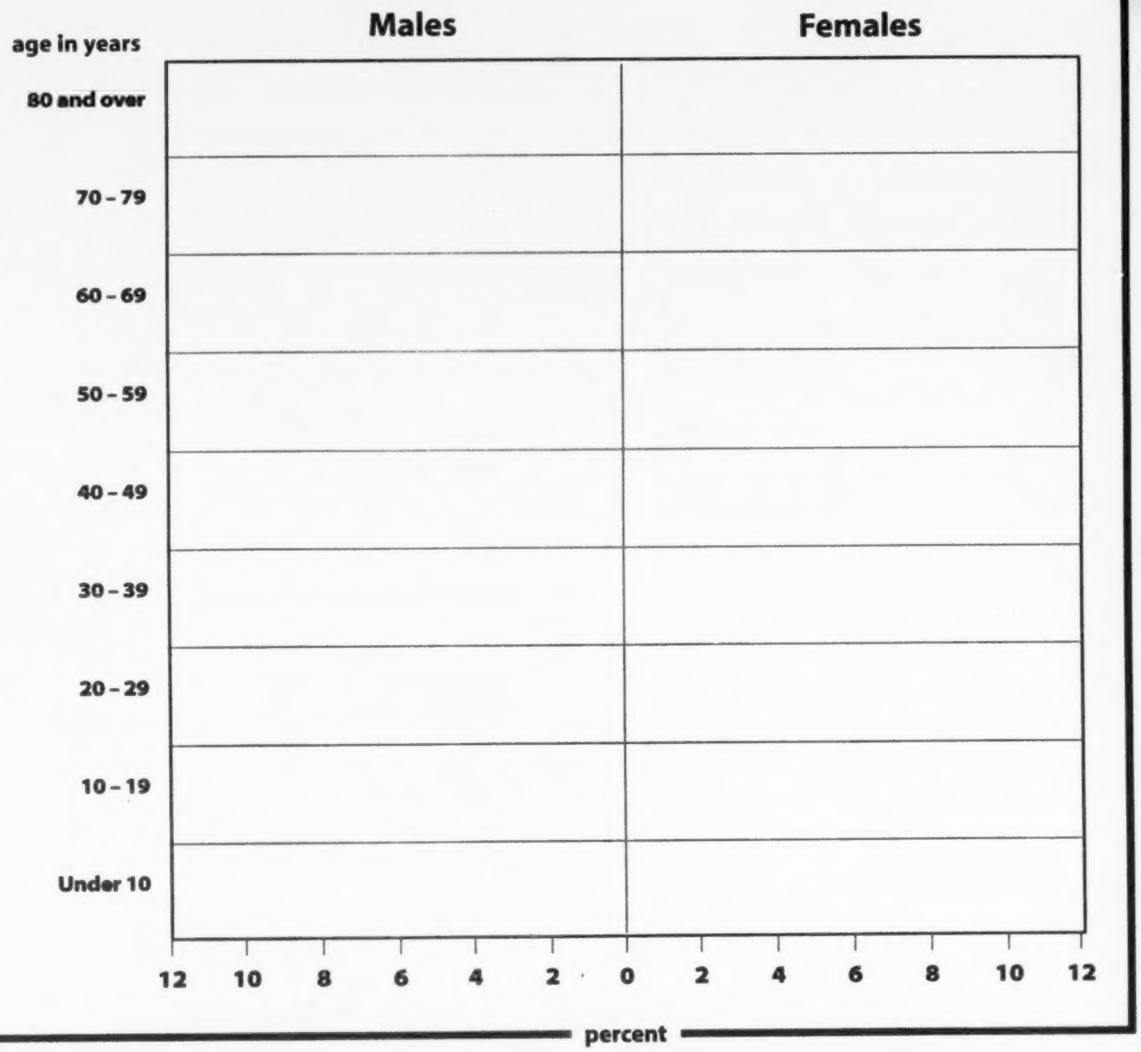
1980	**Male**	**Female**
Under 10 years	7.42	7.09
10 to 19 years	8.82	8.48
20 to 29 years	9.12	9.05
30 to 39 years	6.94	7.08
40 to 49 years	4.89	5.12
50 to 59 years	4.87	5.36
60 to 69 years	3.78	4.54
70 to 79 years	2.08	3.05
80 years and over	0.75	1.54

2000	**Male**	**Female**
Under 10 years	7.24	6.91
10 to 19 years	7.43	7.07
20 to 29 years	6.64	6.51
30 to 39 years	7.57	7.63
40 to 49 years	7.59	7.79
50 to 59 years	5.37	5.73
60 to 69 years	3.40	3.89
70 to 79 years	2.53	3.34
80 years and over	1.12	2.21

2020	**Male**	**Female**
Under 10 years	6.90	6.57
10 to 19 years	6.78	6.44
20 to 29 years	6.72	6.60
30 to 39 years	6.43	6.57
40 to 49 years	5.67	5.93
50 to 59 years	6.08	6.46
60 to 69 years	5.63	6.16
70 to 79 years	3.34	3.87
80 years and over	1.45	2.39

Source: U.S. Bureau of Census.

Draw your population pyramid below:



Activity Three

Graphing Aging in the United States — State and Local Patterns

Materials:

Activity Three Worksheet
Colored pencils

Vocabulary:

Population pyramid
Cohort
Aging population
Aggregate data

Objectives:

This activity involves...

- ▲ construction of state or country population pyramids
- ▲ interpretation of state or country population pyramids
- ▲ evaluation of aging trends within the United States/within individual states
- ▲ speculation about the reasons for uneven distribution of elderly populations in the United States

Introduction:

Population pyramids at the national level are generalizations since they use aggregate, or grouped, data for all fifty states and the District of Columbia. Such pyramids conceal variations among the various states and within individual states. This activity involves construction and analysis of population pyramids for selected individual states. Pyramids for counties within a specific state can also be constructed.

Dealing with Statistical Generalizations:

National level population pyramids are based on generalized data, i.e., data that reflect an aggregate of all the variations within the total population. With a total population nearly 270 million, such generalization disguises the great variation that occurs within a country of this size. Just as cultural and economic characteristics vary among regions, states, and rural or urban settings, so do demographic characteristics vary. In 1996, 13 percent of the U.S. population was classified as elderly, or 65 years and over. But, some states have a higher proportion of the population that is elderly; others, a lower proportion, ranging from 18 percent in Florida to just 5 percent in Alaska. Likewise, within individual states there is likely to be variation.

Recognizing the uneven distribution of age groups at different scales, national, state, county, and local, is critical for decision makers responsible for allocation of public funds and business people making choices about goods and services needed to meet market demand.

Constructing State Population Pyramids:

Working individually or in groups (as instructed) construct population pyramids for Florida, Alaska, and Utah, using the data and the blank pyramid provided on the Activity Three Worksheet. Follow the instructions for pyramid construction provided in Activity Two. Data for other states are available at:

http://www.census.gov/population/estimates/state/97ageby5.txt (use data for the most recent year)

Data on this web site will have to be converted to percentages in order to use them in the blank pyramid grid provided. The data on this web site can be opened and percentage conversions completed in a spreadsheet program such as Microsoft Excel.

In summary ...

Analyze the pyramids for selected states. Then discuss the following questions.

- ▲ Compare and contrast the individual state pyramids and the U.S. national pyramid. In what ways are they similar? ...different?

over

- ▲ What factors might account for differences among individual state pyramids?
- ▲ What issues related to aging population might be of greater concern to decision makers in some states than others? What problems might this pose at the national Congressional level?

Extension: Constructing County Population Pyramids

Variations in the distribution of population groups also occur within states. County-level data are available at:

http://www.census.gov/population/www/estimates/co_cas.html.

Data for local areas may also be available in print form from a public or university library. Data from the Census Bureau web site are broken down by single year of age. Individual counties are identified by FIPS codes. Use of such data requires compilation, but allows for more detailed analysis of patterns within the local state. Such analysis can also be linked to local field trips, interviews, or speakers with special knowledge of aging within the state or county.

If county data are not easily available, students can also sketch population pyramids for their classroom, street, or local neighborhood.

Activity Three Worksheet: Graphing Aging in the United States — Selected States

Pyramid Data — (Percent)

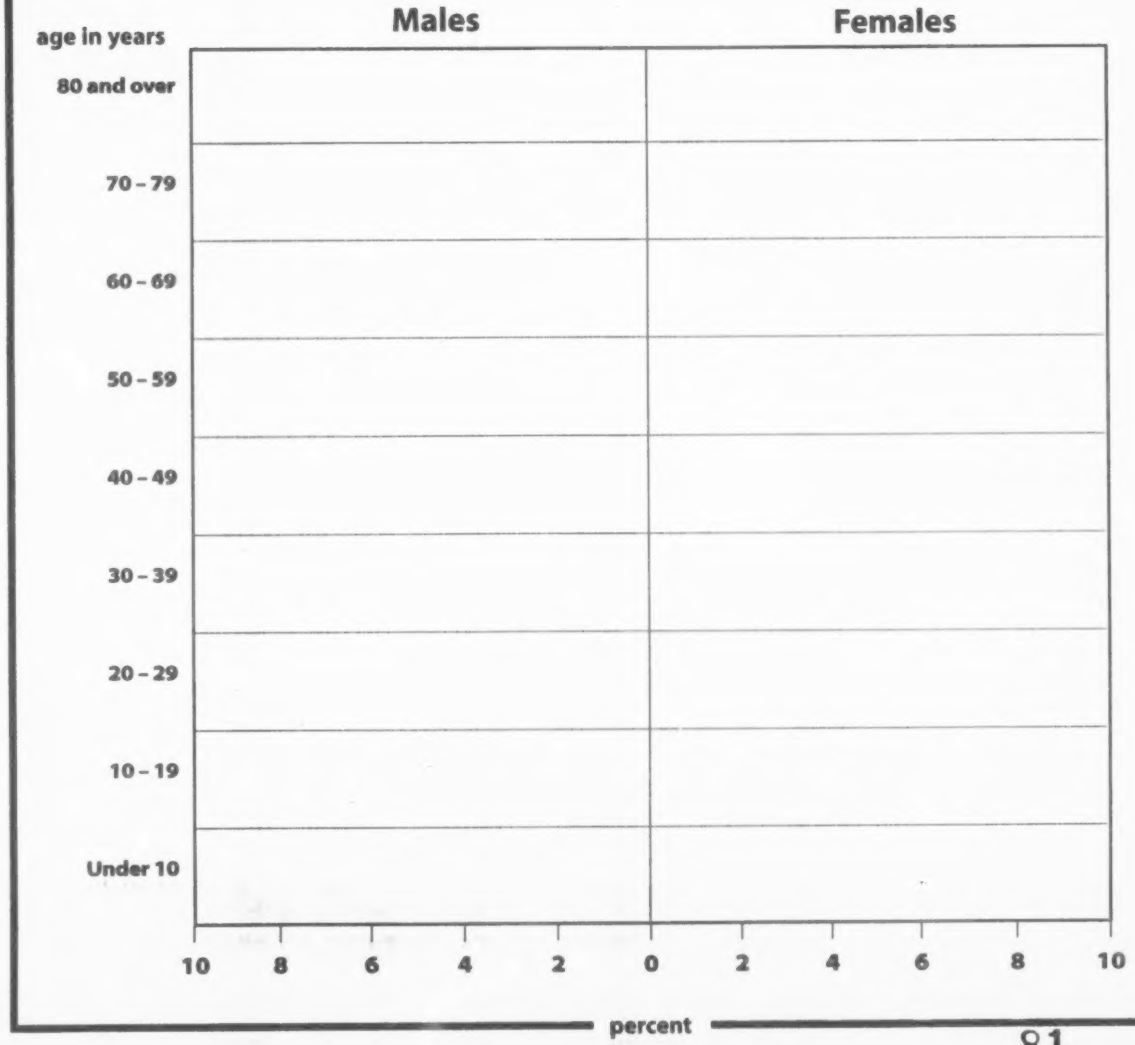
Alaska	**Male**	**Female**
Under 10 years	8.79	8.30
10 to 19 years	8.99	8.25
20 to 29 years	7.03	6.34
30 to 39 years	8.69	7.77
40 to 49 years	9.58	8.07
50 to 59 years	5.47	4.62
60 to 69 years	2.53	2.31
70 to 79 years	1.16	1.26
80 years and over	0.33	0.52

Florida	**Male**	**Female**
Under 10 years	6.83	6.51
10 to 19 years	6.52	6.17
20 to 29 years	6.04	5.87
30 to 39 years	7.59	7.60
40 to 49 years	6.83	7.09
50 to 59 years	4.79	5.29
60 to 69 years	4.37	5.13
70 to 79 years	3.93	4.90
80 years and over	1.72	2.82

Utah	**Male**	**Female**
Under 10 years	9.41	8.93
10 to 19 years	9.80	9.51
20 to 29 years	8.46	8.36
30 to 39 years	6.86	6.77
40 to 49 years	6.19	6.21
50 to 59 years	3.85	3.99
60 to 69 years	2.62	2.85
70 to 79 years	1.82	2.22
80 years and over	0.80	1.36

Source: U.S. Bureau of Census.

Draw your population pyramid below:



Activity Four

Mapping Aging in the United States

Materials:

- Activity Four Worksheet
- "Aging in the United States" data sheet
- Colored pencils

Vocabulary:

- Choropleth map
- Range
- Spatial pattern

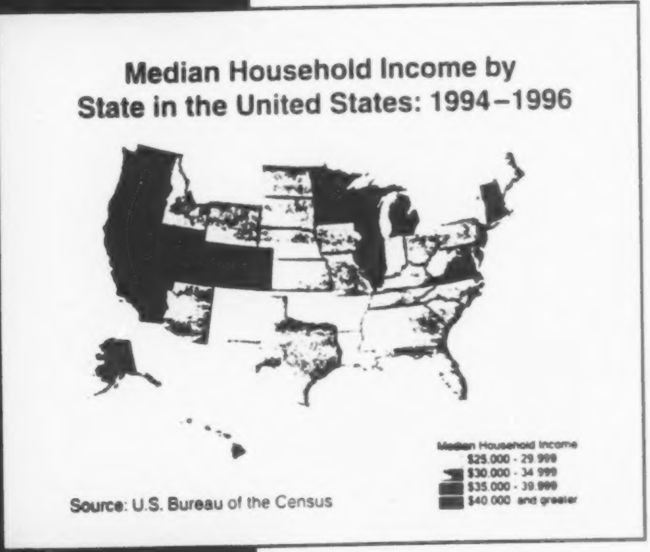
Objectives:

This activity involves...

- ▲ construction of a choropleth map of elderly population as a percent of total population by state in the United States
- ▲ observation of patterns in the distribution of elderly population as a percent of total population by state in the United States
- ▲ speculation about the causes and implications of variations in the distribution of elderly population in the United States

Introduction:

Population pyramids enable us to observe graphically the distribution of age groups within a given population, but maps afford a different perspective on aging in the United States. A special type of map, called a choropleth map, allows observation of spatial patterns and variations among elderly populations within the country. Observation of patterns and variations encourages such questions as "why there?" and "what is the consequence?" This activity involves construction and analysis of a choropleth map of elderly population as a percent of total population by state in the United States.


Median Household Income by State in the United States: 1994–1996

Source: U.S. Bureau of the Census

Reading a Choropleth Map:

A choropleth map (sometimes referred to as an area-value map) reveals patterns within data by showing the distribution of the chosen phenomenon within the selected area. For example, a choropleth map might show variations in median household income by state within the United States.

In order to construct a choropleth map, data are aggregated or generalized into categories that are represented on the map by grades of color or shading. The greater the density of color or shading, the greater the density or value represented. For example, states with the greatest median household income are shaded in the darkest tone; those with the lowest median household income are shaded in the lightest tone. While such generalization may lose detail, it allows quick observation of patterns and variation.

Constructing a Choropleth Map:

The first step in constructing a choropleth map is determining the range of data. On the "Aging in the United States" data sheet, locate the column "Elderly Population (65+): Total, 1997." Determine the highest and lowest values for the data. Subtract the smaller from the larger of these two numbers in order to calculate the range for the data. Then divide the range by the number of mapping categories you plan to use (4 or 5 categories are recommended). Add this number to the lowest value to determine the upper limit of the first category. Repeat this process until all of the category limits are defined. It may be necessary to adjust the limits of the categories to avoid fractions.

Assign a color or shade to each category and create a Key on the map of the United States. Keep in mind that colors or shades should be scaled from darkest to lightest, from highest

over

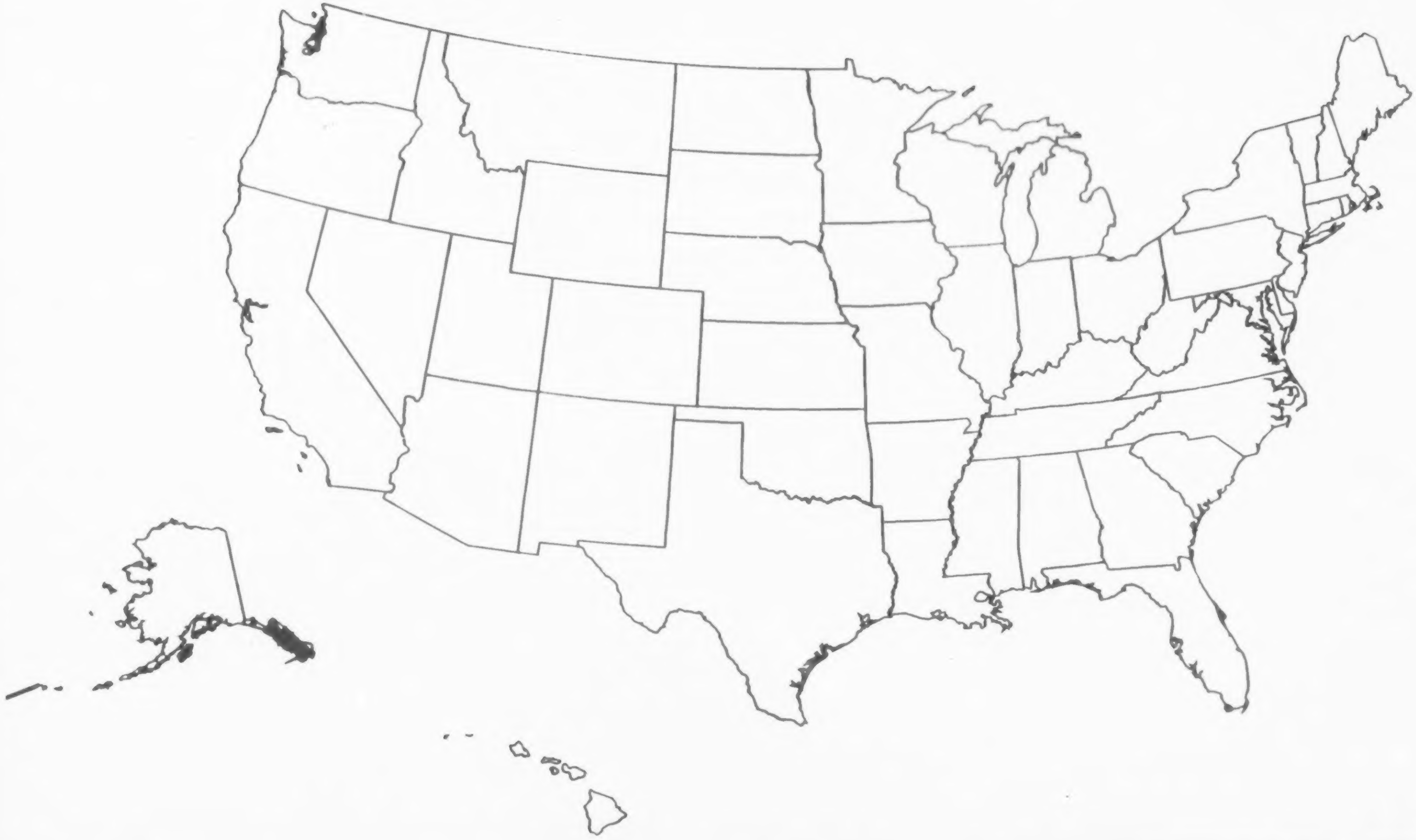
to lowest values. Then sort the data according to categories. Follow the Key to shade each state according to the percent of total population that is elderly. You may want to label each state with the actual percent value to allow comparison later. Title the map and include a data source note in the lower margin.

in summary ...

Examine the map for patterns. Then discuss the following questions.

- ▲ Describe the patterns observed. Which regions have higher percents of elderly in their populations? ... which have lower percents?
- ▲ What factors might account for distribution patterns of elderly populations?
- ▲ What does the map suggest about the mobility of the elderly population?
- ▲ Who among the elderly are most likely to move to a new location to retire? What are some implications for both the sending and receiving states?
- ▲ What might account for the percent elderly in the old industrial belt states of the Northeast and the farm states of the Central Plains? (Hint: What demographic and economic trends have affected these regions over the past two decades?) What issues does this pattern raise?

Activity Four Worksheet: Constructing a Choropleth Map



Aging in the United States

	Total Population 1997	Elderly Population (65+)				Oldest Old (85+)			Race & Ethnicity (65+)			Elderly Below Poverty Level (%)
		Total (%) 1980	Total (%) 1997	Male (%)[a] 1997	Female (%)[a] 1997	Total (%) 1997	Male (%)[b] 1997	Female (%)[b] 1997	White (%) 1997	Black (%) 1997	Hispanic (%) 1997	1989
United States	**267,636,061**	**11.3**	**12.7**	**41.1**	**58.9**	**1.4**	**28.7**	**71.3**	**84.7**	**8.0**	**4.9**	**12.2**
Northeast	51,588,281	12.4	14.2	40.0	60.0	1.7	27.3	72.7	88.1	6.7	3.7	10.0
1 Maine	1,242,051	12.5	13.9	41.1	58.9	1.7	27.3	72.7	99.2	0.2	0.3	13.2
2 New Hampshire	1,172,709	11.2	12.1	41.5	58.5	1.4	26.7	73.3	98.8	0.3	0.5	9.6
3 Vermont	588,978	11.4	12.3	41.4	58.6	1.5	27.6	72.4	99.1	0.2	0.5	11.6
4 Massachusetts	6,117,520	12.7	14.1	39.4	60.6	1.8	25.8	74.2	94.9	2.5	1.5	8.9
5 Rhode Island	987,429	13.4	15.8	39.1	60.9	2.0	25.8	74.2	95.9	1.6	1.7	10.9
6 Connecticut	3,269,858	11.7	14.4	40.4	59.6	1.8	27.1	72.9	92.6	4.2	2.4	6.8
7 New York	18,137,226	12.3	13.4	39.9	60.1	1.6	27.8	72.2	80.7	9.9	6.9	11.4
8 New Jersey	8,052,849	11.7	13.7	40.4	59.6	1.5	28.1	71.9	84.6	8.0	5.2	8.2
9 Pennsylvania	12,019,661	12.9	15.8	40.0	60.0	1.8	27.3	72.7	92.4	6.3	0.7	10.1
Midwest	62,460,453	11.4	13.0	40.7	59.3	1.6	27.7	72.3	91.4	6.4	1.3	10.6
10 Ohio	11,186,331	10.8	13.4	40.4	59.6	1.5	27.0	73.0	90.7	8.2	0.7	10.0
11 Indiana	5,864,108	10.7	12.5	40.3	59.7	1.4	27.2	72.8	92.9	5.6	1.0	10.1
12 Illinois	11,895,849	11.0	12.5	40.1	59.9	1.5	27.1	72.9	85.2	9.8	3.3	10.1
13 Michigan	9,773,892	9.8	12.4	41.1	58.9	1.4	28.5	71.5	87.8	10.3	1.2	10.3
14 Wisconsin	5,169,677	12.0	13.2	41.4	58.6	1.7	28.5	71.5	96.6	2.0	0.8	8.4
15 Minnesota	4,685,549	11.8	12.3	41.3	58.7	1.7	28.0	72.0	97.5	0.9	0.6	11.2
16 Iowa	2,852,423	13.3	15.0	40.6	59.4	2.1	27.8	72.2	98.3	0.8	0.6	10.3
17 Missouri	5,402,058	13.2	13.7	40.5	59.5	1.8	27.3	72.7	91.6	7.1	0.7	13.9
18 North Dakota	640,883	12.3	14.4	42.2	57.8	2.2	30.5	69.5	98.4	0.1	0.2	13.4
19 South Dakota	737,973	13.2	14.3	42.3	57.7	2.0	28.6	71.4	97.2	0.1	0.4	14.3
20 Nebraska	1,656,870	13.1	13.7	41.1	58.9	2.0	28.1	71.9	96.2	1.8	1.5	11.2
21 Kansas	2,594,840	12.9	13.5	40.8	59.2	1.9	28.5	71.5	94.0	3.3	1.8	11.2
South	94,187,161	11.3	12.7	41.1	58.9	1.4	28.7	71.3	81.3	12.4	5.3	16.7
22 Delaware	731,581	9.9	12.9	41.9	58.1	1.3	27.3	72.7	87.1	10.9	1.0	9.6
23 Maryland	5,094,289	9.4	11.5	40.7	59.3	1.2	27.1	72.9	79.4	17.0	1.5	10.1

a Values represent the percent of the elderly population who is male/female
b Values represent the percent of the oldest old population who is male/female
c Non Hispanic

Source: U.S. Bureau of the Census

Aging in the United States

	Total Population 1997	Elderly Population (65+)				Oldest Old (85+)			Race & Ethnicity (65+)			Elderly Below Poverty Level (%)
		Total (%) 1980	Total (%) 1997	Male (%)[a] 1997	Female (%)[a] 1997	Total (%) 1997	Male (%)[b] 1997	Female (%)[b] 1997	White (%)[c] 1997	Black (%)[c] 1997	Hispanic (%) 1997	1989
24 District of Columbia	528,964	11.6	13.9	37.4	62.6	1.7	26.0	74.0	27.1	69.0	2.5	16.1
25 Virginia	6,733,996	9.4	11.2	40.6	59.4	1.2	26.4	73.6	81.5	15.6	1.2	13.4
26 West Virginia	1,815,787	12.2	15.1	40.3	59.7	1.7	27.9	72.1	96.4	3.0	0.4	16.1
27 North Carolina	7,425,183	10.3	12.5	39.9	60.1	1.3	25.5	74.5	82.3	16.2	0.6	18.5
28 South Carolina	3,760,181	9.2	12.1	40.3	59.7	1.1	25.8	74.2	77.5	21.7	0.5	19.8
29 Georgia	7,486,242	9.5	9.9	39.3	60.7	1.0	25.3	74.7	78.4	19.6	1.2	19.4
30 Florida	14,653,945	17.3	18.5	43.3	56.7	2.0	33.6	66.4	84.4	6.0	8.9	10.5
31 Kentucky	3,908,124	11.2	12.5	40.2	59.8	1.4	27.7	72.3	94.0	5.4	0.3	19.6
32 Tennessee	5,368,198	11.3	12.5	39.9	60.1	1.4	27.1	72.9	88.2	11.0	0.4	19.9
33 Alabama	4,319,154	11.3	13.0	39.6	60.4	1.4	27.2	72.8	80.0	19.2	0.3	23.0
34 Mississippi	2,730,501	11.5	12.2	39.5	60.5	1.4	28.4	71.6	73.3	25.8	0.5	28.3
35 Arkansas	2,522,819	13.6	14.3	41.2	58.8	1.7	29.3	70.7	88.4	10.6	0.5	21.7
36 Louisiana	4,351,769	9.6	11.4	40.1	59.9	1.2	27.9	72.1	74.2	23.0	2.0	22.7
37 Oklahoma	3,317,091	12.4	13.4	41.1	58.9	1.6	28.1	71.9	88.5	4.6	1.1	16.8
38 Texas	19,439,337	9.6	10.1	41.4	58.6	1.1	28.5	71.5	73.4	8.6	16.5	17.4
West	59,400,166	10.0	11.3	42.9	57.1	1.2	31.7	68.3	79.1	3.4	9.8	8.6
39 Montana	878,810	10.8	13.2	43.9	56.1	1.6	31.4	68.6	97.0	0.1	0.7	11.7
40 Idaho	1,210,232	10.0	11.3	44.0	56.0	1.3	33.5	66.5	96.7	0.2	2.1	10.9
41 Wyoming	479,743	7.9	11.3	44.1	55.9	1.2	31.1	68.9	95.2	0.5	3.3	10.1
42 Colorado	3,892,644	8.5	10.1	42.3	57.7	1.1	28.8	71.2	87.4	2.5	8.5	10.4
43 New Mexico	1,729,751	8.9	11.2	43.7	56.3	1.1	32.6	67.4	66.1	1.5	28.0	16.0
44 Arizona	4,554,966	11.3	13.2	44.0	56.0	1.3	33.8	66.2	87.1	1.5	8.6	10.5
45 Utah	2,059,148	7.5	8.7	43.7	56.3	1.0	32.9	67.1	94.4	0.3	3.3	8.5
46 Nevada	1,676,809	8.3	11.5	46.5	53.5	0.8	31.0	69.0	85.5	4.6	6.3	9.4
47 Washington	5,610,362	10.5	11.5	42.8	57.2	1.3	31.0	69.0	92.9	1.6	1.7	8.6
48 Oregon	3,243,487	11.5	13.3	42.7	57.3	1.6	31.6	68.4	95.7	0.8	1.5	9.8
49 California	32,268,301	10.2	11.1	42.3	57.7	1.2	31.3	68.7	72.8	5.0	13.2	7.3
50 Alaska	609,311	3.0	5.3	47.2	52.8	0.3	35.4	64.6	76.1	2.1	2.3	7.3
51 Hawaii	1,186,602	7.9	13.2	45.6	54.4	1.3	44.3	55.7	25.0	0.7	3.8	7.8

Source: U.S. Bureau of the Census

a Values represent the percent of the elderly population who is male/female
b Values represent the percent of the oldest old population who is male/female
c Non-Hispanic

Glossary

Aggregate data a total comprising all the elements or individuals in a particular category or group of categories. For examples, the total population of the United States without reference to individual state differences is an aggregate data set.

Aging population a population in which the proportions of adults and elderly increase, while the proportions of children and adolescents decrease. Population aging generally occurs when fertility rates decline while life expectancy remains constant or improves at the older ages.

Baby boom the period following World War II from 1946 to 1964 marked by a dramatic increase in fertility rates and the absolute number of births in the United States, Canada, Australia, and New Zealand.

Choropleth map a map that shows differences between areas by using colors or shading to represent distinct values. For example, differences in rates or percentages in population data among U.S. states can be shown using this mapping technique.

Cohort a group of people sharing a common temporal demographic experience who are observed through time. For example, the birth cohort of 1990 consists of the people born in that year. A cohort can be further broken down on the basis of sex, as in age-sex cohorts.

Dependency ratio the ratio of persons in the ages defined as dependent to persons in the ages defined as economically productive in a population. In this module, dependent is defined as those under 20 years and over 64 years; economically productive is defined as 20–64 years.

Disaggregate to break down a total into smaller elements or more clearly defined groups. In this module, the percentage of elderly persons at the national level is disaggregated by state in order to show regional variations.

Internet Resources

U.S. Administration on Aging
http://www.aoa.dhhs.gov

U.S. Bureau of the Census
http://www.census.gov/population/www/socdemo/age.html

National Aging Information Center
http://www.aoa.dhhs.gov/naic/

National Institute on Aging
http://www.nih.gov/nia/

Population Reference Bureau
http://www.prb.org/aging.htm

Educational attainment the highest level of school completed or the highest degree received.

Elderly 65 years and older.

Oldest old persons 85 years and older.

Percentage a type of proportion that is multiplied by 100 so that the result is expressed per 100 units.

Population pyramid a bar chart that shows the distribution of a population by age and sex. By showing numbers or proportions of males and females in each age group, a pyramid presents a "picture" of a population's characteristics.

Proportion a type of ratio that includes the numerator in the denominator. For instance, the proportion of the population that is male is calculated by dividing the total number of males in the population by the sum of males and females in the population.

Racial/ethnic groups in most cases the population is divided into four groups on the basis of race: White; Black; American Indian, Eskimo, and Aleut; and Asian and Pacific Islanders. Persons of Hispanic origin are determined on the basis of self-identification of the person's origin or descent.

Range the limits of possible variations of amounts. For example, the difference between the highest and lowest values of a given variable constitutes the range in that variable.

Ratio a single number that shows the relative size of two numbers. For example, the ratio of a number A to another number B is the result of dividing the number A by the number B.

Spatial pattern any pattern of data that show variation across geographic areas. For example, the distribution of a population among the states of the United States or the counties within a given state creates a spatial pattern.

over

Glossary
(continued)

Support ratio the ratio of persons in the ages defined as dependent to persons in the ages defined as economically productive in a population (also referred to as dependency ratio). In this module, dependent is defined as those under 20 years and over 64 years; economically productive is defined as 20-64 years.

Working-age population persons in the ages defined as economically productive. In this module, economically productive is defined as 20-64 years.

Bibliography

Binstock, Robert H., and Linda K. George, eds. *Handbook of Aging and the Social Sciences*, Fourth Edition. (New York: Academic Press, 1996).

De Vita, Carol J. "The United States at Mid-Decade," *Population Bulletin*, vol. 50, no. 4 (Washington, DC: Population Reference Bureau, Inc., March 1996).

Maddox, George, ed. *The Encyclopedia of Aging*. (New York: Springer Publishing Company, 1995).

Martin, Linda G., and Samuel H. Preston, eds. *Demography of Aging*. (Washington, DC: National Academy Press, 1994).

Moody, Harry. *Aging: Concepts and Controversies*. (Thousand Oaks, CA: Pine Forge Press, 1994).

Quadagno, Jill and Debra Street, eds. *Aging for the Twenty-First Century: Readings in Social Gerontology*. (New York: St. Martin's Press, 1996).

Rogers, Andrei, ed. *Elderly Migration and Population Redistribution*. (London: Belhaven Press, 1992).

Siegel, Jacob. *A Generation of Change: A Profile of America's Older Population*. (New York: Russell Sage Foundation, 1993).

Suzman, Richard M., David P. Willis, and Kenneth G. Manton, eds. *The Oldest Old*. (New York: Oxford University Press, 1992).

Treas, Judith. "Older Americans in the 1990s and Beyond," *Population Bulletin*, vol. 50, no. 2 (Washington, DC: Population Reference Bureau, Inc., May 1995).

U.S. Bureau of the Census. *An Aging World II*. Report P95/92-3, prepared by Kevin Kinsella and Cynthia Taeuber, 1993.

U.S. Bureau of the Census. "65+ in the United States." *Current Population Reports* P23-190, prepared by Frank B. Hobbs with Bonnie L. Damon. (Washington, DC: GPO, April 1996).

U.S. Bureau of the Census. "Sixty-five Plus in America." *Current Population Reports* P23-178RV, prepared by Cynthia Taeuber. (Washington, DC: GPO, May 1993).

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